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**Datasheet for the decision
of 18 November 2009**

Case Number: T 1821/07 - 3.3.06

Application Number: 01990736.9

Publication Number: 1337620

IPC: C11D 17/04

Language of the proceedings: EN

Title of invention:

Dishwashing method

Patentee:

THE PROCTER & GAMBLE COMPANY

Opponents:

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

Headword:

Dishwashing method/PROCTER & GAMBLE

Relevant legal provisions:

EPC Art. 56

Relevant legal provisions (EPC 1973):

-

Keyword:

"Inventive step (all requests): no - obvious to try"

Decisions cited:

-

Catchword:

-



Case Number: T 1821/07 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 18 November 2009

Appellants:
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
6 September 2007 concerning maintenance of
European patent No. 1337620 in amended form.

Composition of the Board:

Chairman: P. Ammendola
Members: L. Li Voti
U. Tronser

Summary of Facts and Submissions

I. The present appeal is from the decision of the Opposition Division to maintain in amended form the European patent no. 1 337 620 concerning a method of washing dishware/tableware in an automatic dishwashing machine.

II. In their notices of opposition the Opponents 01 and 02 sought revocation of the patent *inter alia* on the grounds of Article 100(a) EPC, because of lack of an inventive step of the claimed subject-matter.

The Opponents referred during the opposition proceedings *inter alia* to the following document:

(9): CA-A-1112534.

III. As regards the then pending claims according to the first auxiliary request the Opposition Division found in its decision that

- the subject-matter of claim 1 differed from the disclosure of document (9), representing the closest prior art, insofar as it required the use of a dishwashing product in a unit dose form being in a state of compression across at least one of its transverse sections within the closed product dispenser, which product had a specific degree of deformability and had a shape and size such that the volume fill of the dispenser in its closed state was of at least 40%;

- since no technical advantage had been demonstrated for the choice of any of these technical features, the

technical problem underlying the invention could only be formulated as the provision of a further method for washing dishware in an automatic dishwasher wherein the product could be easily fitted into various differently shaped dispensers;

- the choices of a dishwasher having a single compartment dispenser as well as of a specific deformability for the dishwashing product and of a specific volume fill of the dispenser amounted to arbitrary selections that the skilled person would have considered in the light of the teaching of document (9);

- however, the prior art did not suggest a dishwashing method including the dosing of a dishwashing product in a state of compression from a product dispenser;

- therefore, it would not have been obvious for the skilled person, starting from document (9), to modify its teaching and to arrive at the claimed subject-matter;

- the subject-matter of the claims according to the first auxiliary request thus involved an inventive step.

IV. Appeals were filed against this decision by Opponent 02 and by the Patent Proprietor.

The Patent Proprietor submitted nine auxiliary requests with the letter of 15 January 2008 containing also the statement of the grounds of appeal.

Opponent 01, Respondent to the Patent Proprietor's appeal, submitted also arguments in writing.

Oral proceedings were held before the Board on 18 November 2009.

During oral proceedings the Patent Proprietor made the first auxiliary request of 15 January 2008, which consisted of the set of claims found by the Opposition Division to comply with the requirements of the EPC, to its main request and labelled the second and third auxiliary requests submitted with the letter of 15 January 2008 as first and second auxiliary requests, respectively; all other requests submitted previously in writing were withdrawn.

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

"1. A method of washing dishware/tableware in an automatic dishwashing machine having a single or multi-compartment product dispenser which is normally closed and sealed after charging the machine and prior to delivery of the dishwashing product into the wash liquor and wherein the dishwashing product comprises one or more dishwashing compositions in a unit dose form having a degree of deformability greater than 10%, as calculated by the method herein defined 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 product is in a state of compression within the closed product dispenser across at least one transverse section of the product."

Claim 1 according to the **first auxiliary request** differs from that according to the main request only insofar as the wording "across at least one transverse section of the product" is replaced by "across the smallest transverse section of the product in a direction generally perpendicular to the product dispenser closure means".

Claim 1 according to the **second auxiliary request** differs from that according to the main request insofar as the wording "and wherein the product is in a state of compression within the closed product dispenser across at least one transverse section of the product" is replaced by "wherein the dishwashing product displays anisotropic deformability".

VI. The Patent Proprietor submitted during oral proceedings that

- document (9), representing the closest prior art, concerned a method for dispensing efficiently a pasty detergent composition during dishwashing wherein the technical features of the film used for the packet containing the detergent composition were not necessarily technical features of the packet itself; in fact, it was clear from the examples of this document that the invention of document (9) concerned flat easily foldable floppy pouches having a large surface area and containing a low amount of detergent product, which pouches were dispensed by means of a type of dishwashing machine currently used at the time of publication of this document, which machine contained a double compartment dispenser having a big dispenser cup;

- since the products of document (9) were completely deformable because of their floppiness, they would not be in a state of compression even if used in a folded state; in any case, it would have been unlikely that they would be in a state of compression within the big dispenser cup of the dishwashers used according to the teaching of this document;

- the invention of the patent in suit concerned instead the use of three-dimensional dishwashing products having a bigger cross-section than the products of document (9) and an advantageous ratio of surface area to volume; such a three-dimensionality brought about good handling properties and a better feel for the consumer; moreover, the combination of the specific volume fill of the dispenser with the three-dimensionality of the detergent product used in a state of compression provided an optimized efficiency of the dishwashing method;

- in the case that the state of compression would be perpendicular to the product dispenser closure means, the detergent products of the invention would spring out of the dispenser when opened and would provide a better dispensability to the wash than the method of document (9); furthermore, an anisotropic deformability of the three-dimensional detergent product used would also provide further improvements in terms of dispenser fit, packaging, feel and handling properties;

- since the closest prior art did not contain any suggestion that could have motivated the skilled person to modify the teaching of document (9) in the way claimed in the patent in suit in order to achieve the

technical advantages of the invention, the claimed subject-matter would involve an inventive step.

VII. The Opponents submitted in writing and orally *inter alia* that

- it had not been shown that any of the technical features of claim 1 according to any request would bring about the alleged technical effects;

- the technical problem underlying the invention could only be seen in the provision of an alternative dishwashing method with a dishwashing product which could fit easily to product dispensers of different sizes and could be easily dispensed therefrom;

- document (9) already taught how to fit the flexible packet disclosed therein to dispensers of different sizes, for example, by folding them; moreover, it would have been obvious for the skilled person to modify the teaching of document (9) in order to optimize the amount of actives delivered per unit costs;

- as regards the state of compression, the only way of folding the flexible dishwashing product of document (9) within a dispenser without incurring in the product remaining possibly stuck into it, would have been by folding it so as to keep the smallest transverse section perpendicular to the closure means of the dispenser; in such a case, a product of suitable dimensions would be necessarily compressed by such closure means;

- furthermore, any dishwashing product of the type disclosed in document (9) would necessarily show anisotropic deformability;

- therefore, it would have been obvious for the skilled person in the light of the teaching of document (9) and of his common general knowledge to modify the teaching of document (9) in the way claimed in the patent in suit;

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

VIII. The Patent Proprietor requests that the appeal of Opponent 02 be dismissed or that the decision under appeal be set aside and that the patent be maintained on the basis of the second or third auxiliary request submitted with the letter dated 15 January 2008, now labelled as first and second auxiliary request.

IX. Opponent 02 requests that the decision under appeal be set aside and the patent be revoked.

X. Opponent 01 requests that the Patent Proprietor's appeal be dismissed.

Reasons for the Decision

1. *Main request*

1.1 Articles 123 (2) and (3) EPC; Novelty

The Board is satisfied that the claims according to the main request comply with the requirements of Articles 123(2) and (3) EPC and are novel over the cited prior art.

Since this request fails on other grounds no further details are necessary.

1.2 Inventive step

1.2.1 The invention of claim 1 relates to a method for washing dishware/tableware in an automatic dishwashing machine using dishwashing products in unit dose form (see also paragraph 1 of the patent in suit).

As explained in the description of the patent in suit, unitised doses of dishwashing detergents are found to be more attractive and convenient to some consumers because they avoid the need of the consumer to measure the product thereby giving rise to a more precise dosing and avoiding wasteful overdosing or underdosing. For this reason automatic dishwashing detergent products in tablet form have become very popular and detergent products in pouch form are also known (paragraph 2).

Since the shape of dishwashing machine dispensers is different from manufacturer to manufacturer, tablets and pouches are designed to have a size and shape which

fit all machine dispensers. This fact together with the mechanical properties of tablets and pouches usually constrains the amount of product composition which can be incorporated therein (paragraph 4).

The technical problem underlying the invention thus is formulated in the patent in suit as the provision of a unitised dose form which allows for optimum delivery of active components across different washing machine types and which provides improved processing and dissolution characteristics (paragraph 8).

- 1.2.2 At the oral proceedings before the Board all the parties considered document (9) as the most suitable starting point for the evaluation of inventive step as the Opposition Division did in the decision under appeal.

In fact, document (9) relates to the provision of a unitised dose form for a machine dishwashing method which allows optimum delivery of active components from a dishwashing machine dispenser and excellent dissolution characteristics (see page 3, lines 21 to 26).

Therefore, also the Board takes document (9) as the most suitable starting point for the evaluation of inventive step.

- 1.2.3 As regards the technical problem underlying the invention seen in the light of the teaching of document (9), the Patent Proprietor explained during oral proceedings that the technical effects listed in said paragraph 8 of the patent in suit related to an

improvement over detergent tablets but not over the subject-matter of document (9). Therefore, these alleged technical advantages can be disregarded in the discussion of inventive step.

However, the Patent Proprietor submitted that the claimed method would provide improvements in terms of handling properties and feel of the product as well as of the efficiency of the dishwashing method.

It is undisputed that there are no comparisons either in the patent in suit or on file that could show or prove these alleged advantages. Moreover, also the Opposition Division found in its decision that no technical advantages due to the distinguishing features of the subject-matter of claim 1 had been made credible.

As agreed by the Patent Proprietor during oral proceedings, the subject-matter of claim 1 according to the main request differs from the disclosure of document (9) insofar as

- the volume fill of the dishwashing product is greater than 60% of the volume of the corresponding compartment of the dispenser in its closed state and

- the product is in a state of compression within the closed product dispenser across at least one transverse section of the product.

As regards the deformability of the used product, the Patent Proprietor admitted during oral proceedings that the products used in document (9) were highly deformable; however, it submitted also that if such

products were submitted to the test for deformability of the patent in suit would not break or burst. Therefore, also the deformability of the products of document (9) would not be similar to that meant in the patent in suit.

- 1.2.4 According to the Patent Proprietor the product used in the claimed method would be three-dimensional with a cross-section bigger than that of the products of document (9) and with an advantageous ratio of surface area to volume that would provide better handling properties and feel for the consumer; moreover, the use of such a three-dimensional detergent product would improve the efficiency of the dishwashing method, for example because of an optimization of the detergent amount used with respect to the volume fill of the dispenser of the dishwashing machine.

The Board remarks that claim 1 does not contain any technical feature which describes such an alleged special three-dimensionality of the detergent product as the only structural feature of the used product is its deformability, which has to be measured by the method indicated in the patent in suit (see paragraph 10). In the light of this method the deformability is intended in the patent in suit as the capacity of the detergent product lying on its maximum footprint to be compressed till its point of fracturing or bursting by a corresponding flat probe placed on its upper surface (see page 2, lines 53 to 55 of the patent in suit) and is also called "vertical deformability" (page 3, lines 12 to 13). Consequently, it is not possible to derive from this single feature relating to the deformability of the tested body in one direction any

information as to the three-dimensional structure of the product.

Therefore, the claimed method cannot be considered to be limited to the use of such special three-dimensional products described by the Patent Proprietor during oral proceedings. The alleged technical advantages associated therewith thus cannot be considered to have been achieved by all the embodiments encompassed by claim 1 and such technical advantages have to be disregarded for the definition of the underlying technical problem.

As regards the state of compression of the detergent product, the Board finds that the wording of paragraph 9 of the patent in suit according to which the product has preferably a shape and size such that it is compressibly contained within the product dispenser, makes credible that the detergent product has to be subjected in the claimed method to an external compression force exercised by the dispenser itself, be its closure means or its walls. However, claim 1 does not contain any indication of the direction of the compressive force exercised on the product within the dispenser. Therefore, if the compressive force is exercised by the walls of the dispenser, such a feature cannot have any positive effect on the dispensability of the product which is held against the wall of the dispenser and on the efficiency of the dishwashing method apart from the capability of the detergent product to fit into a smaller dispenser.

Therefore, the Board finds that the technical problem underlying the invention can be defined in the light of

the teaching of document (9) only as the provision of an alternative method of dishwashing by using a unitised dose form which is capable of fitting into the dispensers of different types of dishwashing machine.

The Board finds that the technical problem indicated above has been credibly solved by means of a method having the technical features of claim 1.

- 1.2.5 Document (9) discloses a method of washing dishware/tableware in an automatic dishwashing machine by using a dishwashing product in the form of a water-soluble packet which is filled with a pasty detergent composition for cleaning dishes. This document teaches explicitly that the used packet may contain preferably from 2 to 50 grams of detergent composition and that it should be of a convenient size so as to fit, either folded or unfolded into the dispenser cup of an automatic dishwasher. For this purpose, it is important to select a film for the packet which is strong, tough, flexible and shock-resistant and retain these properties while in contact with the alkaline detergent composition, i.e. on use of the packet (page 22, line 28 to page 23, line 20). This can only mean, in the Board's view, that the whole packet and not only a portion thereof or only the film before preparation of the packet retains all these properties.

The Patent Proprietor did not dispute that the products used in document (9) are deformable; however, by referring to the examples of this document disclosing a dishwashing product in the form of a 5 cm. square packet having a large surface area and containing a relatively low amount of 12 grams of detergent (see

page 26, lines 13 to 20), it argued that the products of document (9) would be essentially floppy and flat and would not have the required three-dimensionality of the products of the invention; moreover, they would be so floppy that they would not break or burst when submitted to the deformability test of the patent in suit so that they would not be deformable as required in the patent in suit; moreover, it would not be possible to use them in a state of compression in the large dispenser cups of the type of dishwashing machine used in the examples of document (9).

As already explained above (point 1.2.4), claim 1 of the main request does not contain any technical feature describing a specific three-dimensionality of the product used. Moreover, the Board finds that the teaching of document (9) is certainly not limited to the specific embodiments disclosed in its examples which relate to a specific automatic dishwasher currently used at the publication time of that document, 20 years before the priority date of the patent in suit. The skilled person, at the priority date of the patent in suit, would have instead considered that the general teaching of document (9) regards the use of a flexible packet capable of holding up to 50 grams of detergent and that, thus, such a teaching is not confined to floppy and flat products as possibly disclosed in the examples but extends to packets of bigger cross-section having such strength, toughness and flexibility that they would have necessarily a deformability as intended in the patent in suit, i.e. that they would break or burst upon compression on a test as reported in the patent in suit. Moreover, document (9) does not contain any requirement as to the type of dishwasher to be used;

therefore, it would have been obvious for the skilled person to try these flexible detergent products within the dispensers of the conventional dishwashing machines available at the priority date of the patent in suit, for which dispensers it was known in the prior art how to design tablets and pouches.

Since document (9) teaches that a flexible detergent product made of a film as indicated in its description can be folded without breaking in order to fit into a dispenser in which it would not fit unfolded, it would have been obvious for the skilled person, by following the teaching of this document, to try a **bigger** packet of a material as taught in document (9) within a **smaller** dispenser by folding it, which fact would have as a necessary consequence that it would be compressed by the closure means of the dispenser or by the sides of the dispenser depending on the way the product is placed therein.

Considering that document (9) also taught to use an amount of composition suitable for a single washing load (page 23, lines 3 to 5), i.e. a unitised dose of composition, it would also be a necessary consequence that the volume of the dispenser is exploited at a very substantial extent.

For the sake of completeness, the Board remarks that the specific lower limits for the volume fill and the deformability indicated in claim 1 are arbitrary values not linked to any specific technical effect and, as admitted by the Patent Proprietor during oral proceedings, have no inventive merit by themselves.

The Board concludes that it would have been obvious for the skilled person, by following the teaching of document (9) and his common general knowledge, to provide an alternative method of dishwashing having all the features of claim 1 according to the main request with the expectation that the used detergent product is capable of fitting into the dispensers of different types of dishwashing machine.

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 Claim 1 according to the first auxiliary request differs from that according to the main request only insofar as the wording "across at least one transverse section of the product" is replaced by "across the smallest transverse section of the product in a direction generally perpendicular to the product dispenser closure means".

According to the Patent Proprietor, in a method having the above mentioned technical feature, a detergent product would spring out of the dispenser on opening of the dispenser closure means; therefore, it would be better dispensed into the washing liquor than a product according to the teaching of document (9).

In the Board's view, in order to reach this effect the detergent product would have to possess a certain degree of elasticity so that it could spring out of the

dispenser on opening of the closure means, for example a closing lid, instead of just falling out as usually happens with the currently used tablets and pouches.

The Board remarks that claim 1 does not contain any technical feature which could imply the requirement of any degree of elasticity for the detergent product. In fact, both the deformability of the product, which has to be measured according to the specific test explained above (point 1.2.4), and its state of compression do not require that the used product is elastic and has to regain its initial form after the compressive force applied to it is released.

Therefore, it cannot be considered that the alleged technical advantage would be achieved by all embodiments encompassed by claim 1.

- 2.1.2 As explained above (point 1.2.5), the skilled person would have envisaged at the priority date of the patent in suit to apply the teaching of document (9) also to dishwashing machines available at the priority date of the patent in suit which were different from that specifically used in the examples of document (9).

Since the conventional dishwashing machines available at the priority date of the patent in suit could have a product dispenser as small as 20 ml (see paragraph 13 of the patent in suit), by trying to fit a **bigger** folded flexible packet containing an amount of detergent of up to 50 grams as envisaged in document (9) into such a **smaller** dispenser, the only reasonable way to place the product folded into the dispenser would have been with the smallest transverse section of the

product in a direction generally perpendicular to the product dispenser closure means, since it would have the smallest possible thickness perpendicular to such closure means and would avoid to remain hold by compression against the dispenser walls.

Considering that the volume of the dispenser would be necessarily exploited at a very substantial extent as explained in paragraph 1.2.5 above, it would be also a necessary consequence that the closure means of the product dispenser compress to some extent the detergent product, so obtaining a state of compression across the smallest transverse section of the product in a direction generally perpendicular to the product dispenser closure means as required in claim 1.

2.1.3 Therefore, also the subject-matter of claim 1 according to the first auxiliary request does not involve an inventive step.

3. *Second auxiliary request*

3.1 Inventive step

3.1.1 Claim 1 according to the second auxiliary request differs from that according to the main request insofar as the wording "and wherein the product is in a state of compression within the closed product dispenser across at least one transverse section of the product" is replaced by "wherein the dishwashing product displays anisotropic deformability".

As explained in the patent in suit a detergent product with anisotropic deformability has a different vertical

and horizontal deformability, the vertical deformability being measured as indicated in paragraph 10 of the patent in suit (see point 1.2.4 above) and the horizontal deformability being measured by means of a similar test wherein the unit dose form is rotated in a perpendicular plane with respect to the test of paragraph 10 (see page 3, lines 12 to 16).

The Patent Proprietor submitted during oral proceedings that the use of a product having a special three-dimensionality as that of the invention and anisotropic deformability would provide further improvements as to dispenser fit, packaging, feel and handling viewpoints as indicated on page 3, lines 18 to 19 of the patent in suit.

However, claim 1 does not contain any technical feature describing the alleged three-dimensionality (see also paragraph 1.2.4 above). Also the additional technical feature of the anisotropic deformability cannot describe further the three-dimensionality of the product since it does not indicate quantitatively the difference between the horizontal and the vertical deformabilities so that any three-dimensional form capable of breaking or bursting when subjected to the deformability test of the patent in suit is encompassed by the wording of claim 1.

Furthermore, no evidence is present in the patent in suit or on file that would show any of the alleged technical advantages.

Therefore, also in this case it cannot be considered that the alleged technical advantages would be achieved by all embodiments encompassed by claim 1.

- 3.1.2 As already explained in point 1.2.5 above, the skilled person would have considered that the teaching of document (9) regarding the use of a flexible detergent product capable of holding up to 50 grams of detergent is not confined to floppy and flat products as possibly disclosed in the examples, but extends to packets of bigger cross-section having such strength, toughness and flexibility that they would have necessarily a deformability as intended in the patent in suit.

Moreover, as explained above it would have been obvious for the skilled person to try to fit bigger flexible packets into smaller dispensers by exploiting the dispenser volume at a substantial extent.

Furthermore, it would have been also obvious for the skilled person to adopt for the flexible packet a form similar to that of the tablets currently used which, as generally known, had at the priority date a shape fitting within any product dispenser of the available dishwashing machines (see paragraph 4 of the patent in suit), i.e. a form having different side lengths.

- 3.1.3 As explained by the Opponents during oral proceedings, in a packet of the type suggested in document (9) containing a paste which is necessarily not ideally distributed throughout the packet as well as in any packet having different side lengths or containing seals like the packet of document (9) (page 24, lines 4 to 10), the deformability as meant in the patent in suit will have to be necessarily different if measured

vertically or horizontally because of the different dimensions submitted to compression or of the different strength of the compressed sides. Therefore, by applying the test of deformability of the patent in suit, the point of break or bursting of the sample would not be the same if measured horizontally or vertically.

The Board agrees with the Opponents' view since an isotropic deformability, i.e. identical horizontal and vertical deformability, could only be achieved by using a hypothetical overall symmetrical product having a homogenous distribution of the paste, which does not correspond to the characteristics of a real product as taught in document (9). Moreover, the skilled person would not have tried a symmetrical product having identical side lengths in a dispenser of a dishwashing machine wherein currently used tablets would fit, which tablets as known have different side lengths (see also paragraph 3.1.2 above).

Therefore, by using a flexible packet as taught in document (9), the skilled person would have necessarily used a detergent product having anisotropic deformability.

The subject-matter of claim 1 according to the second auxiliary request thus lacks also an inventive step.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The patent is revoked.

The Registrar:

The Chairman:

G. Rauh

P. Ammendola