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Datasheet for the decision of 3 July 2007

Case Number: T 0818/06 - 3.3.06

Application Number: 04716092.4

Publication Number: 1601755

IPC: C11D 17/04

Language of the proceedings: EN

Title of invention:
A cleaning kit and/or a dishwashing kit containing a foam-generating dispenser and a cleaning and/or dishwashing composition

Patentee:
THE PROCTER & GAMBLE COMPANY

Opponent:
-

Headword:
Foam-generating dispenser/PROCTER

Relevant legal provisions:
EPC Art. 56

Keyword:
"Inventive step (no) - technical problem: to be reformulated; technical solution: obvious alternative"

Decisions cited:
-

Catchword:
-

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Case Number: T 0818/06 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 3 July 2007

Appellant: THE PROCTER & GAMBLE COMPANY
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Cincinnati, Ohio 45202 (US)

Representative: Goodier, Claire-Louise
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 30 December 2005 refusing European application No. 04716092.4 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: P.-P. Bracke
Members: G. Raths
A. Pignatelli

Summary of Facts and Submissions

I. This appeal is from the decision of the Examining Division to refuse the European patent application No. 0 471 6092.4 relating to a cleaning kit and/or a dishwashing kit containing a foam generating dispenser and a cleaning and/or dishwashing composition.

II. During the examination procedure, inter alia, the following documents were cited:

(1) WO-A-02/17 876
(2) WO-A-02/00 820
(6) US-A-5 393 468
(7) WO-A-97/01 621
(8) WO-A-98/18 352

III. During oral proceedings held on 19 December 2005 before the Examining Division, the applicant submitted a main request and an auxiliary request.

Claim 1 of the main request read as follows:

"1. A cleaning kit comprising:
A. a container comprising a foam-generating dispenser for generating a foam comprising an air injection piston; and
B. a composition contained within the container, the composition being suitable for manual dishwash and selected from the group consisting of a microemulsion and a protomicroemulsion, and the composition comprising:
i. a surfactant system; and
ii. a solvent,

wherein when employed with the composition, the foam-generating dispenser generates a foam having a foam to weight ratio of greater than about 3 mL/g to 10 mL/g."

IV. The Examining Division found that the subject-matter of Claim 1 of the main request did not involve an inventive step.

As to inventive step in respect of the main request, the Examining Division argued, in essence, as follows:

Document (6) disclosed clear microemulsions comprising anionic surfactants (paraffin sulfonate, AEOS) and solvents, wherein the microemulsions would show good olive oil uptake properties. Said compositions would therefore provide good oil solubilisation characteristics.

The subject-matter of Claim 1 differed from the dishwashing compositions according to document (6) in that the composition was dispensed via a foam dispenser comprising an air injection piston.

Starting from document (6) as the closest prior art, the technical problem underlying the application in suit would be the provision of a dishwashing composition in an alternative application form.

Document (7) disclosed foam dispensers for dishwashing compositions. According to document (8) consumers would prefer foaming compositions which would be better rated in respect of sudsing. Hence, there would have been an incentive for the skilled person to put the compositions according to document (6) in a commonly

used foam dispenser. The comparative examples would not be appropriate since it would not appear from said examples which ingredients were responsible for achieving better foam properties. In the light of the foaming effects shown by the compositions according to documents (1), (2) and (7), the applicant would not have proved a surprising effect.

V. The appellant lodged an appeal against this decision. Its arguments can be summarized as follows:

The Examining Division based its reasoning on hindsight. The appellant did not agree with the definition of the technical problem to be solved in the light of the teaching of document (6) i.e. the provision of a composition to be employed in an alternative application form.

As to the foam generation, the creation of an excellent creamy and long lasting foam would usually require the addition of a substantial amount of water whereas according to the invention no water would be required.

According to the dishwashing composition of the invention, consumer acceptable foaming would be accepted at a dilution where the oil solubilisation curve would be more effective and preferably maximized. (application in suit, page 10, lines 13 to 16).

In regard of cleaning performance, (proto)microemulsions known in the prior art as having a poor foaming performance but an excellent cleaning performance would loose upon dilution their cleaning

performance since dilution would destroy their emulsion structure.

According to the invention a very nice foam could be created via the piston with no water by using air alone. Even a minimal amount of water to hand dish products used on a sponge would not destroy the highly effective grease cutting properties.

None of the compositions according to documents (7) and (8) were (proto)microemulsions, neither document (7) nor document (8) would address the problem of providing a substantial and long lasting foam.

VI. In the communication dated 21 December 2006, the Board observed that the appellant had not submitted arguments against the obviousness of using a microemulsion according to document (7).

VII. Oral proceedings took place on 3 July 2007 which the appellant did not attend as announced in its reply dated 13 April 2007 to the Board's communication. It had not responded to the observations made by the Board and requested a decision to be taken on the basis of the written procedure.

VIII. The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request submitted during oral proceedings held on 19 December 2005 before the Examining Division.

Reasons for the Decision

1. Main (and sole) request

1.1 Inventive step

1.1.1 According to the application in suit, there was a need for "an improved cleaning and/or dishwashing composition which possesses acceptable sudsing without the need for suds boosters. The need also exists for a cleaning and/or dishwashing kit which generates foam where the oil solubilisation is maximized, and which provides acceptable foaming at a dilution where the dishwashing composition's oil solubilisation characteristics are higher than they are at the dilution where acceptable foam forms during use" (page 2, lines 12 to 17).

1.1.2 The Board can agree to take document (6) as the starting point for evaluating inventive step since this document relates, inter alia, to compositions giving a good performance as to grease removal, particularly in dish-washing (document (6), column 4, lines 56 to 60) which compositions are in the form of a substantially concentrated or somewhat diluted microemulsion (column 3, lines 3 to 7).

The compositions according to document (6) comprise anionic surfactants like paraffin sulfonate and nonionic detergents such as condensation products of a higher alcohol condensed with ethylene oxide (column 5, line 1; lines 57 to 61) i.e. a surfactant system according to B i of Claim 1 of the main request.

Further, the fact that a microemulsion (oil-in-water or water-in-oil; column 4, lines 13 to 15) is used according to document (6)(column 3, line 7), implies that the requirement of the feature B ii of Claim 1 (the presence of a solvent) is fulfilled.

1.1.3 The subject-matter of Claim 1 differs from the dishwashing composition according to document (6) in that the composition is contained in a container comprising a foam-generating dispenser comprising an air injection piston.

1.1.4 As to the problem underlying the application in suit in the light of document (6), the Examining Division had defined this problem as the provision of a dishwashing composition in an alternative application form.

The appellant did not agree with said re-definition of the problem. According to the appellant, the problem underlying the application in suit in the light of document (6) would be to produce greater levels of foam, foam quality and foam longevity with no compromise on cleaning performance and no addition of suds boosters (letter dated 4 May 2006, page 2, point 2.2.2).

1.1.5 Since the appellant did not agree with the Examining Division's re-definition of the problem, the Board, in favour of the appellant, continues the reasoning by following the appellant and by defining the problem in the light of document (6) as the production of greater levels of foam having a good foam quality and foam longevity with no compromise on cleaning performance and no addition of suds boosters.

1.1.6 The question is whether this problem was plausibly solved over the whole scope of Claim 1.

1) According to example 1 of the application in suit, when using a foam-generating dispenser, the foam "lasts throughout the normal use to clean dishes". If the foam-generating dispenser is not used, "the effective foaming dilution range does not significantly overlap the effective oil solubilisation dilution range".

However, as far as example 1 is concerned, there is no proper demonstration that the alleged advantage (production of greater levels of foam having a good foam quality) has successfully been achieved in terms of concrete results.

Therefore example 1 is not a convincing proof that the technical problem was plausibly solved.

2) In example 2 of the application as filed, it is referred to the suds generating curves once with and once without employing the foam generating dispenser of graph I (page 9 of the application in suit). The oil solubilisation rate (y-axis) is plotted as a function of the product concentration (or dilution rate)(x-axis).

On the x-axis of this graph, the product concentration (in %) is ranging from 0 to 100% (or the dilution rate from 100% to 0%, 0% dilution rate corresponding to 100% product concentration). On the y-axis, a relative scale ranging from 0 to 5 shows the effective oil solubilisation rate and suds generation.

The solubilisation rate is a value measuring how much oil may be solubilised for a given product concentration. The value "5" (corresponding to 100% oil solubilisation rate) is the maximal obtainable best rating. Therefore, the value "4.7", for example, is translated into a (100*4.7/5=) 94% oil solubilisation rate. The suds generation (indicated on the same y-axis) is a measure of suds generated in ml.

Graph I shows 3 curves: curve 1 is a suds generation curve, the suds being generated by a foam generating dispenser, curve 2 is obtained from suds being generated without a foam-generating dispenser, curve 3 is an oil solubilisation curve obtained from ionic based microemulsions.

The best rating (or best suds generation curve) is obtained for a composition being dispensed from a foam-generating dispenser: the oil solubilisation rate is about (100*4/5=) 80% in a range of 100% to 3% of the product concentration.

Without a foam generating dispenser, the suds generation curve 2 shows an oil solubilisation rate of about (100*1.6/5=) 32% (at about 30% product concentration) rising to about (100*4/5=) 80% (at 20% product concentration) and decreasing to (100*2/5=) 40% (at about 2% product concentration).

With a microemulsion and without a foam generating dispenser, the suds generating curve 3 shows an oil solubilisation rate of about 42% (at about 90% product concentration) rising to 94% (at about 70% product

concentration) and decreasing to about 20% (at about 42% product concentration).

For the Board, example 2 shows improvements in regard of foam longevity and cleaning performance when a foam generating dispenser is used. However, the Board observes that concrete data regarding the foam to weight ratio are missing. Therefore, this example does not properly demonstrate that the purported advantage was achieved.

3) With the letter dated 21 November 2005, the appellant had submitted comparative data. The invention composition contains, inter alia, 2.13% of linear alkyl benzene sulphonate, 5.95% of C12, C14 amine oxide and 2.34% of C9,11E8 nonionic and 8% propylene glycol and produces a foam to weight ratio of 7.28. The comparative examples J and M contain, inter alia, 25.5% of paraffin sulphonate, 8.5% of sodium salt C12-14 ether sulphate, 3% isopropanol, urea (5% and 6%, respectively) and no propylene glycol. The foam to weight ratio of compositions J and M is 2.28 and 0.97, respectively.

Thus the compositions J and M had a foam to weight ratio of less than 3 mL/g i.e. outside the range of Claim 1 whereas the foam to weight ratio of the composition according to the application in suit was 7.28 mL/g i.e. in the range of 3 to 10 mL/g as defined in Claim 1.

The compositions of examples J and M fulfil the requirements of Claim 1 in respect of the constituents: a surfactant system and a solvent. However, the

compositions do not fulfil the requirement of the mentioned ratio of foam to weight of about 3 mL/g to 10 mL/g as set in Claim 1. Thus, said compositions, in spite of meeting the requirements of "a microemulsion, a surfactant system and a solvent", disqualify as invention compositions.

1.1.7 In fact, none of the data provided in the patent application or during the examination proceedings are suitable for showing that the problem as defined in point 1.1.5 above is solved over the complete claimed scope. In particular, it has not been made plausible that the alleged problem would be solved by generating a foam having a foam to weight ratio of greater than about 3 mL/g to 10 mL/g of a composition comprising **any** surfactant system and **any** solvent.

Consequently, it has not been made plausible that the problem is solved over the whole scope of Claim 1.

1.1.8 Hence, the problem has to be reformulated as a less ambitious one, namely the provision of an alternative application form for a dishwashing composition (so did the Examining Division).

According to the application in suit, this technical problem was solved by using a foam-generating dispenser comprising an air injection piston.

1.1.9 The question is whether there were promptings in the prior art to apply the compositions according to document (6) with a foam-generating dispenser.

It results from the application in suit that containers and specifically dispensing containers for forming a foam are well known in the trigger-sprayer and aerosol arts, and that foam-generating dispensers are known for cleaning purposes, but that foam-generating dispensers have not been used for containing and dispensing a dishwashing composition (page 2, lines 1 to 11).

However, document (8) relating to compositions and methods for cleaning edible animal protein (page 1, lines 1 to 2) discloses that the essential foam component is provided through a foaming spray head (page 14, lines 11 to 13). Further, compositions according to document (7) can be used for food contacting surfaces (page 14, lines 32 to 35) and according to example 1 of this document flasks were washed with 5 g of the products by using a sprayer.

Hence, there was an incentive for a skilled person to use the compositions according to document (6) in a foam generating dispenser.

1.1.10 It follows that the subject-matter of Claim 1 does not involve an inventive step, and hence, does not meet the requirements of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

G. Rauh P.-P. Bracke