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**Datasheet for the decision
of 12 March 2008**

Case Number: T 0737/06 - 3.3.06

Application Number: 99909159.8

Publication Number: 0988361

IPC: C11D 3/00

Language of the proceedings: EN

Title of invention:

Carpet cleaning compositions and method for cleaning carpets

Patentee:

THE PROCTER & GAMBLE COMPANY

Opponent:

Reckitt Benckiser (UK) Limited
HENKEL KGaA

Headword:

Carpet cleaner/PROCTER & GAMBLE

Relevant legal provisions:

RPBA Art. 13(1)

Relevant legal provisions (EPC 1973):

EPC Art. 54(1)(2), 56, 107

Keyword:

"Admissibility of the appeal of Appellant 01 (yes)"

"Novelty (yes)"

"Inventive step (no): common general knowledge of known experimentally proved physical law suggesting as a first choice the solution of the technical problem underlying the invention"

Decisions cited: -

Catchword:

Point 4.6 of the reasons for the decision



Case Number: T 0737/06 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 12 March 2008

Appellants:

(Opponent 01)

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(Opponent 02)

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Representative:

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Respondent:

(Patent Proprietor)

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Representative:

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Decision under appeal:

Decision of the Opposition Division of the
European Patent Office posted 27 April 2006
rejecting the opposition filed against European
patent No. 0988361 pursuant to Article 102(2)
EPC.

Composition of the Board:

Chairman: P.-P. Bracke
Members: L. Li Voti
U. Tronser

Summary of Facts and Submissions

I. The present appeal is from the decision of the Opposition Division to reject the oppositions against the European patent no. 0 988 361, concerning a carpet cleaning composition and a method for cleaning carpets.

Claim 2 of the patent as granted reads as follows:

"1. A composition for the cleaning of a carpet comprising a soil suspending polycarboxylate and/or polyamine polymer, and having a residuality index of less than 40% after vacuum cleaning, packaged in a container adapted to deliver the composition on the carpet in the form of a spray of droplets having a particle size distribution wherein 90% of the spray of droplets dispensed (expressed in volume units) has a droplet diameter (mean diameter $D(v,0.9)$) of less than 750 μm , wherein said residuality index after vacuum cleaning (TVRi) is defined as follow:

$$TVRi(\%) = \frac{W_{fv} - W_s}{W_t - W_s} \times 100$$

wherein: W_s represents the initial weight of a carpet sample (prior to any treatment); W_t represents the weight of the same carpet sample immediately after the composition for the cleaning of the carpet has been applied thereto; W_{fv} represents the final weight of the same carpet sample after having been vacuumed; and wherein said residuality index after vacuum cleaning is

measured as described in part "The method of cleaning a carpet" of the description."

Claim 1 relates to a method for cleaning a carpet by using a liquid composition having all the features of claim 2; claims 3 to 17 relate to specific embodiments of the claimed method or composition.

II. In their notices of opposition the Opponents 01 and 02, referring *inter alia* to documents

(1): EP-A-0751213;

(2): WO-A-96/15308;

(3): WO-A-97/11785; and

(6): Mr. Mazzucato's Declaration of 01.09.2003,

sought revocation of the patent *inter alia* on the grounds of Article 100(a) EPC, because of lack of novelty and inventive step of the claimed subject-matter.

III. In its decision, the Opposition Division found *inter alia* that

- documents (2) and (3) disclosed a method of cleaning carpets by dispensing a liquid composition comprising a soil suspending polycarboxylate and/or polyamine polymer as a spray of droplets onto a carpet;

- however, it had not been convincingly shown that any of documents (2) and (3) taught the use of a spraying device which would provide necessarily a spray of droplets having a particle size distribution wherein 90% by volume of the droplets has a diameter of less

than 750 μm ; or that it was common general knowledge at the priority date of the patent in suit that an aerosol can, one of the possible spraying devices described in document (2), provides necessarily the particle size distribution required by the patent in suit;

-the claimed subject-matter thus was novel over the cited documents.

As regards inventive step the Opposition Division found that

- document (2) represented the closest prior art for the purpose of evaluating inventive step of the claimed subject-matter;

- as shown in a comparative test submitted by the Applicant during examination with the letter of 07 June 2001, a composition provided as a spray of droplets having a particle size distribution according to the patent in suit dried in a shorter time than a composition according to the general teaching of document (2), provided as a spray of droplets having a larger particle size outside the range required by the patent in suit;

- therefore, the invention had convincingly solved the technical problem of providing a carpet cleaning composition capable of providing a satisfactory soil removal and of drying faster;

- however, it had not been convincingly proved that the skilled person, by relying on his common general knowledge, would have expected, on the basis of an

allegedly known physical law, that a cleaning composition dispensed onto a carpet as a spray of droplets having a reduced particle size would dry faster than a composition dispensed as a spray of droplets of larger particle size;

- therefore, even though spraying devices capable of providing the droplet size distribution required by the invention were known from the prior art, as made credible by document (6), the skilled person would have had no incentive for using this type of spraying device within the teaching of document (2) with the expectation of achieving a faster drying of the sprayed liquid composition;

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

IV. Appeals were filed against this decision by both Opponents (Appellants 01 and 02).

Appellant 02 cited with its statement of the grounds of appeal the following additional document:

(7): "Physikalische Chemie" by W.J. Moore, 4th edition, 1986, pages 579-580.

Appellant 01 cited with its letter of 14 February 2008 the following documents:

(10): EP-A-0794244;

(11): WO92/14552;

(12): US-A-5068099.

V. Oral proceedings were held before the Board on 12 March 2008.

During oral proceedings the Respondent contested the admissibility of the appeal lodged by Appellant 01 since this appeal appeared to have been lodged on behalf of a party, RECKITT BENCKISER PLC, not having any right to an appeal against the patent in suit.

The representative of Appellant 01 declared that the appeal, lodged in the name of RECKITT BENCKISER, was intended to have been submitted in the name of Opponent 01, i.e. RECKITT BENCKISER (UK) LIMITED. The indication in the statement of the grounds of appeal that the appeal had been lodged on behalf of RECKITT BENCKISER PLC was a clerical error, since RECKITT BENCKISER PLC was only the representative of Opponent 01 (now Appellant 01), RECKITT BENCKISER (UK) LIMITED.

During oral proceedings Appellant 01 did not maintain the novelty objection based on the teaching of document (3), raised in the statement of the grounds of appeal, and submitted instead that the claimed subject-matter lacked novelty in the light of the teaching of document (10) in combination with the common general knowledge of the skilled person.

In fact, as submitted in writing in the letter of 14 February 2008, document (10) disclosed a carpet cleaning composition containing a soil suspending polymer as claimed and dispensed onto a carpet by means of an aerosol can, i.e. a spraying device which was generally known to produce a mist of particles having necessarily a droplet size distribution as claimed.

This allegation was supported additionally by the teachings of documents (11) and (12).

Appellant 01 did not submit any arguments as to the reason for the late filing of documents (10) to (12).

The Respondent submitted that documents (10) to (12) had been filed very late, after oral proceedings had already been appointed, and were not more relevant than the documents cited previously in the proceedings. Therefore, they had not to be admitted.

VI. As regards the inventiveness of the claimed subject-matter the Appellants submitted in writing and orally *inter alia* that

- document (2) disclosed a liquid carpet cleaning composition packaged in a spraying device differing from the subject-matter of claim 2 only insofar as it was not specified whether the spraying device was capable of dispensing the liquid composition as a spray of droplets having the required particle size distribution; in fact, as admitted by the Respondent, a liquid composition comprising a soil suspending polycarboxylate and/or polyamine polymer as described in document (2) provided a residuality index as required in claim 2;

- considering a liquid composition dispensed by means of a conventional spraying device according to the teaching of document (2) as the starting point for the evaluation of inventive step, the only technical problem underlying the invention could be seen in the provision of an alternative similar product for

cleaning carpets which dried faster onto the carpet than the product disclosed in document (2);

- as explained in document (7), according to a known physical law represented by the Kelvin equation, droplets having a smaller particle size have a greater vapour tension and dry faster than droplets having a greater particle size; therefore, a skilled person, by using his common general knowledge of known physical laws, would have expected that a liquid composition dispensed onto a carpet as a spray of smaller droplets would dry faster than a composition dispensed as a spray of droplets of larger particle size;

- even though liquid droplets sprayed onto a carpet would not be any longer present as such onto and within the carpet fibres, a similar behaviour had to be expected for the liquid aggregates formed by the droplets within and onto the carpet;

- moreover, as admitted by the Respondent, spraying devices able of dispensing a liquid composition as a spray of droplets having a particle size distribution as required in the patent in suit were known at the priority date of the patent in suit, as made credible by document (6);

- therefore, the skilled person, faced with the technical problem of providing a product for cleaning carpets which dried faster than the product disclosed in document (2), would have tried to reduce the particle size of the spray of droplets of the liquid composition dispensed onto a carpet disclosed in that document by using other known spraying devices suitable

for that purpose which fell within the general classes of spraying devices listed in document (2);

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

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

- the claimed subject-matter was novel over the cited prior art;

- document (2) did not mention the technical problem solved by means of the claimed invention;

- document (7) reported a known physical law which was not applicable as such to the present case in which the liquid droplets penetrated the fibres of the carpet and did not exist any longer as such within and on the carpet; this document, in fact, did not contain any teaching that smaller droplets would dry faster once applied onto a carpet;

- therefore, even though spraying devices capable of providing a droplet size distribution as in the patent in suit were known from the prior art, the skilled person would not have had any incentive for using such a spraying device within the teaching of document (2) with the expectation of obtaining a carpet cleaner which could be applied directly onto the carpet without causing damage to it, which had excellent overall cleaning performance on various types of stains, which was applicable on all carpet types and safe to all carpet dye types, and which dried faster;

- to the contrary, the skilled person would have rather tried to operate within the teaching of document (2) by using a dry composition as also envisaged in that document or by modifying chemically the liquid composition disclosed therein, for example, by reducing its water content or by replacing the water contained therein at least partly with more volatile liquids;
 - therefore, the claimed subject-matter involved an inventive step.
- VIII. The Appellants request that the decision under appeal be set aside and that the patent be revoked.
- IX. The Respondent requests that the appeals be dismissed.

Reasons for the Decision

1. *Admissibility of the appeal of Appellant 01*

On 09 May 2006 Appellant 01 lodged an appeal worded as follows: "Further to the decision of the Opposition Division dated 27 April 2006 regarding the above European Patent, Reckitt Benckiser, hereby files a Notice of Appeal against this decision."

However, the statement of the grounds of appeal of 25 August 2006 reads: "...pursuant to our letter of 09 May 2006, the Notice of Appeal on behalf of Reckitt Benckiser plc against the decision...".

The indication used in the letter of 25 August 2006 thus might cause uncertainty as to the appellant's

identity, i.e. whether the appeal was lodged on behalf of RECKITT BENCKISER PLC, i.e. on behalf of the representative of Opponent 01, or on behalf of the right Opponent 01, RECKITT BENCKISER (UK) LIMITED.

However, the representative stated during oral proceedings that the letter of 25 August 2006 contained a clerical error and that the appeal had to be understood to have been lodged on behalf of the right Opponent 01 RECKITT BENCKISER (UK) LIMITED and not on behalf of RECKITT BENCKISER PLC itself, which was only the representative of Opponent 01 (now Appellant 01).

The Board notes also that the appealed decision indicates the real Opponent 01 and that the grounds of appeal merely confuse this Opponent with its representative, both of them being associated by the identical name but differing in their corporate structure.

Therefore, keeping this in mind, the Board is of the opinion that the facts explained above cannot cause such an uncertainty for the other parties as to the identity of Appellant 01 that the appeal is to be rejected as inadmissible.

The Board thus finds that the appeal of Appellant 01 is admissible.

2. *Admissibility of documents (10) to (12)*

- 2.1 Appellant 01 submitted for the first time with the letter of 14 February 2008, i.e. less than one month before the oral proceedings scheduled for the 12 March

2008, a novelty objection based on the content of documents (10), (11) and (12), which had not been cited before, and common general knowledge.

In its letter and during oral proceedings the Appellant 01 admitted that the submissions had been filed late but requested that documents (10) to (12) be introduced into the proceedings.

No further explanation as to the reason for the late filing of these facts and evidence was submitted during oral proceedings.

- 2.2 According to Article 13(1) RPBA, any amendment to a party's case after it has filed its grounds of appeal or reply may be admitted and considered at the Board's discretion in view *inter alia* of the current state of the proceedings.

In the present case Appellant 01, by citing document (3), had already submitted in the statement of the grounds of appeal its arguments as to the novelty of the claimed subject-matter.

Therefore, the submissions of documents (10) to (12) with the letter of 14 February 2008 amount to an amendment of Appellant 01's case.

Moreover, these submissions are belated since they have been filed by far after the last Respondent's letter of 13 March 2007 and less than one month before the scheduled oral proceedings.

In the present case, document (10), as submitted by the Respondent during oral proceedings and not contested by Appellant 01, has a description very similar to that of documents (1) and (2) which had already been discussed during the first instance proceedings and during appeal and it thus cannot be considered to be a document more relevant than the documents already in the proceedings.

Furthermore, documents (11) and (12) are patent specifications cited only for supporting the Appellant's allegation as to the common general knowledge of the skilled person at the priority date of the patent in suit. As correctly submitted by the Respondent during oral proceedings, such patent specifications cannot be used as a proof of the common general knowledge of the skilled person, which is normally represented by encyclopaedias, textbooks, dictionaries and handbooks on the subject in question (see Case Law of the Boards of appeal of the EPO, 5th edition, 2006, I.C.1.5, page 48); therefore, also these documents cannot be considered to be more relevant than the documents already in the proceedings.

Therefore, the Board concludes that the documents (10) to (12) cannot be admitted into the proceedings (Article 13(1) RPBA).

3. *Novelty*

Since Appellant 01 has withdrawn during oral proceedings the novelty objection raised in writing on the basis of document (3) (see point V above) and novelty has been contested during oral proceedings only on the basis of documents (10) to (12), which have not

been admitted into the proceedings (see point 2.3 above), the Board has no reason to depart from the finding of the department of first instance that the claimed subject-matter is novel over the cited prior art (see point III above).

4. *Inventive step*

- 4.1 The subject-matter of claim 2 relates to a carpet cleaning composition comprising a soil suspending polycarboxylate and/or polyamine polymer, having a residuality index of less than 40% after vacuum cleaning and packaged in a container adapted to deliver the composition on the carpet in the form of a spray of droplets having a particle size distribution wherein 90% of the spray of droplets dispensed (expressed in volume units) has a droplet diameter of less than 750 μm . This carpet cleaning composition is also used in the method of claim 1.

As explained in the description, there existed two main groups of carpet cleaning compositions: shampoos and spotters. Shampoos were applied onto the whole carpet but presented the drawbacks of soil redeposition and poor efficacy on difficult stains; moreover, they needed a large amount of water to be rinsed off resulting in degradation of the carpet and long drying time. Spotters were applied on stains but required brushing or other manual action while the composition was still in a wet state; moreover, they needed to be rinsed with water till the stain no longer appeared and left tacky films as the shampoos if not properly rinsed (see paragraphs 4 and 5 of the patent in suit).

The technical problem underlying the invention thus was formulated in the description as the provision of a method for cleaning a carpet with a liquid composition which can be applied to the whole carpet or to localised stained areas, which provides overall excellent cleaning performance, does not require manual action or rinsing, requires limited drying time, is safe to all carpet dyes and can be applied without damaging the carpet (see paragraphs 6 and 9 to 12).

- 4.2 Even though documents (1) to (3) have a similar teaching, documents (1) and (3) do not require necessarily the presence of the suspending polymers used in the patent in suit (see the respective claim 1) and document (3) deals mainly with the provision of a sprayer capable of dispensing a great volume of liquid for treating large or small areas of a soiled carpet independently from the type of composition used (see claim 1 and page 2, lines 24 to 29).

Document (2) instead deals with a method for cleaning a carpet with a composition which can be liquid, which method can be applied to the whole carpet or to localised stained areas, provides overall excellent cleaning performance, does not require manual action or rinsing, is safe to all carpet dyes, can be applied without damaging the carpet and requires also a limited drying time; moreover, the used liquid composition comprises a polycarboxylate or polyamine soil suspending polymer and can be preferably applied by means of a spraying device (see page 2, line 7 to page 3, line 9; page 4, line 19 to page 5, line 5; page 14, lines 3 to 27; page 15, lines 3 to 4; page 17, line 16 to page 18, line 8; page 18, lines 20 to 22).

Therefore, the Board finds that document (2) represents the most suitable starting point for the evaluation of inventive step, as submitted by the Respondent, by Appellant 02 and by the Opposition Division.

- 4.3 Document (2) discloses in its examples the cleaning of a carpet by means of a liquid composition comprising a soil suspending polycarboxylate or polyamine polymer which is dispensed onto a soiled carpet by means of a trigger sprayer, is left to dry for about 2 hours and is then vacuum cleaned (page 16, compositions 7 to 11; page 17, lines 4 to 12 and 20 to 28; page 18, lines 1 to 22).

This product disclosed in document (2) thus differs from the subject-matter of claim 2 only insofar as it does not specify whether the used sprayer is one capable of providing a spray of droplets having a particle size distribution wherein 90% of the spray of droplets dispensed has a droplet diameter of less than 750 μm .

In fact, as remarked in the decision of the department of first instance (see point III above) and admitted by the Respondent during oral proceedings, the residuality index required by claim 2 is necessarily achieved by using the liquid composition disclosed in document (2), comprising the mentioned soil suspending polymers.

- 4.4 As already explained above, this known carpet cleaning method using a product according to the teaching of document (2) can be applied to the whole carpet or to localised stained areas, provides overall excellent

cleaning performance, does not require manual action or rinsing, is safe to all carpet dyes, can be applied without damaging the carpet and dries in a limited time, e.g. of about 2 hours as shown in the examples.

The drying time indicated in document (2) is at the upper range of that indicated in the description of the patent in suit, specifying that the liquid composition, once sprayed onto the carpet, is left to dry for less than 2 hours, wherein by "dry" is meant the stage where at least 40% of the initial amount of composition is lost due to evaporation (see paragraphs 28 and 29 of the patent in suit).

Therefore, the Board finds that document (2) already dealt with a similar technical problem as the patent in suit and the technical problem underlying the invention can only be defined as the provision of an alternative method for cleaning a carpet with a product having similar properties to the sprayable liquid carpet cleaner described in document (2) but being capable of drying faster onto the carpet.

As shown in the comparative test submitted during examination with the letter of 07 June 2001, a carpet cleaning composition according to the patent in suit dispensed as a spray of droplets having the particle size distribution required in claim 2 dries in a shorter time than the same composition dispensed as a spray of droplets of larger particle size not according to claim 2.

Therefore, the technical problem underlying the invention of providing an alternative method for

cleaning a carpet with a product having similar properties to the sprayable liquid carpet cleaner described in document (2) but being capable of drying faster onto the carpet has been convincingly solved by means of a product having the features of claim 2.

- 4.5 The Board cannot accept the Respondent's arguments that the skilled person, faced with the above mentioned technical problem, would have been led by the teaching of document (2) to try a dry composition described in that document (page 14, lines 30 to 32) as a first choice for solving the above mentioned underlying technical problem.

In fact, it was known to the skilled person that the behaviour and properties of dry carpet cleaning compositions are very different from that of liquid carpet cleaners (see e.g. document (3) page 1, lines 28 to 30); therefore, the skilled person would have not chosen a dry composition for solving the technical problem of providing an alternative method for carpet cleaning with a liquid composition having **similar properties** to the sprayable liquid carpet cleaner of document (2) and being capable of drying faster onto the carpet.

For a similar reason, the skilled person would have not chosen to modify chemically the liquid composition disclosed in document (2), for example by reducing its water content or by replacing its water at least partly with a more volatile liquid, since it would have expected that such a modification affects the properties of the composition.

4.6 As explained in document (7) with reference to the Kelvin equation, it was a known experimentally proved physical law that the vapour tension of a liquid droplet increases by reducing its radius (see page 579, lines 1 to 14; equation 11.12 and page 580, lines 5 to 8). This means that liquid droplets having a smaller particle size dry faster than droplets having a larger particle size.

This behaviour of liquid droplets belonged to the common general knowledge of the skilled person at the priority date of the patent in suit.

The Board agrees with the Respondent that document (7) does not relate specifically to the behaviour of liquid droplets once they are dispensed onto carpet fibres and that such sprayed liquid droplets, by penetrating the carpet fibres and contacting the soil, will no longer have their original form and will possibly aggregate with each other at least to a certain extent.

However, as submitted by Appellant 02 during oral proceedings, the skilled person would have expected the aggregates formed from smaller droplets dispensed onto a carpet to be smaller than aggregates formed by larger droplets.

Moreover, in the Board's judgement, a skilled person, aware of the physical laws and thus also of the known behaviour of liquid droplets explained in document (7), would have expected this behaviour to be maintained at least to a certain extent in the aggregates formed from such droplets.

The Board concludes that a skilled person would have expected that smaller aggregates tend to have a greater vapour tension and to dry faster than larger aggregates.

Therefore, the skilled person, faced with the technical problem of providing an alternative method for cleaning a carpet with a product having similar properties to the sprayable liquid carpet cleaner described in document (2) but being capable of drying faster onto the carpet, by relying on his common general knowledge of known physical laws, would have tried to reduce the particle size of the dispensed liquid droplets.

Consequently, contrary to what was submitted by the Respondent, he would have had an incentive for trying a spraying device suitable for dispensing a spray of droplets of smaller particle size.

As admitted by the Respondent during oral proceedings, sprayers capable of providing a spray of droplets of smaller particle size in accordance with the requirements of claim 2 were known, as made credible, for example, by document (6). Therefore, the skilled person, starting from the teaching of document (2), could and would have selected as a first choice one of these known spraying devices out of the classes of spraying devices explicitly indicated in this document, i.e. trigger or pump operated or electrically operated sprayers or aerosol cans (page 14, lines 17 to 21) in order to reduce the drying time of the liquid composition described in document (2) and to solve the technical problem underlying the invention.

4.7 The Board concludes that the subject-matter of claim 2 does not involve an inventive step.

Since the appeal succeeds already on these grounds there is no need to discuss the method of claim 1.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The patent is revoked.

The Registrar:

The Chairman:

C. Vodz

P.-P. Bracke