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Datasheet for the decision of 17 December 2009

Case Number: T 1468/08 - 3.3.10

Application Number: 98958382.8

Publication Number: 1045706

IPC: A61L 15/60

Language of the proceedings: EN

Title of invention:
Absorbent polymer compositions having high sorption capacities under an applied pressure and improved integrity in the swollen state

Patentee:
THE PROCTER & GAMBLE COMPANY

Opponent:
KIMBERLY-CLARK WORLDWIDE, INC.

Headword:
Absorbent polymer compositions/PROCTER & GAMBLE

Relevant legal provisions:
EPC Art. 100(b), 111(1)

Relevant legal provisions (EPC 1973):
-

Keyword:
"Sufficiency of disclosure (yes): invention can be carried out in whole area claimed without undue burden"

Decisions cited:
T 0409/91, T 0435/91

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1468/08 **-** 3.3.10

D E C I S I O N
of the Technical Board of Appeal 3.3.10
of 17 December 2009

Appellant: (Patent Proprietor)	THE PROCTER & GAMBLE COMPANY One Procter & Gamble Plaza Cincinnati, OHIO 45202 (US)
Representative:	Rasser, Jacobus Cornelis Howrey LLP Rembrandt Tower, 31st Floor Amstelplein 1 NL-1096 HA Amsterdam (NL)
Respondent: (Opponent)	KIMBERLY-CLARK WORLDWIDE, INC. 401 North Lake Street Neenah WI 54956 (US)
Representative:	Beacham, Annabel Rose Frank B. Dehn & Co. St Bride's House 10 Sailsbury Square London EC4Y 8JD (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted 29 May 2008 revoking European patent No. 1045706 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman: R. Freimuth
Members: J. Mercey
F. Blumer

Summary of Facts and Submissions

I. The Appellant (Proprietor of the Patent) lodged an appeal on 29 July 2008 against the decision of the Opposition Division dated 29 May 2008 revoking European patent No. 1 045 706, and on 7 October 2008 filed a written statement setting out the grounds of appeal.

II. Notice of Opposition had been filed by the Respondent (Opponent), requesting revocation of the patent in its entirety on the grounds of *inter alia* insufficient disclosure (Article 100(b) EPC).

III. The decision under appeal was based on a main request and five auxiliary requests. The Opposition Division decided that the patent according to all of the then pending requests did not disclose the invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art. More particularly, the Opposition Division held that the single example in the specification of the patent in suit which fell under the claims was not fit for generalisation, since it was apparent from the patent specification that several different operational parameters influenced the product parameters Performance Under Pressure (PUP) and Ball Burst Strength (BBS), there being no reliable general teaching in the specification how to obtain the desired values. It was concluded that the person skilled in the art, even with the help of his common general knowledge, could not carry out the invention without undue burden.

IV. During oral proceedings, held on 17 December 2009, the Appellant submitted a new main request, superseding all previous requests. The only claim of this sole request read as follows:

"A mixed bed ion exchange absorbent polymer composition comprising:

an anion-exchange absorbent polymer having an ion-exchange capacity of at least 10 meq/g, and

a cation-exchange absorbent polymer having an ion-exchange capacity of at least 4 meq/g;

whereby the composition has one or more of the following: (i) a Performance Under Pressure (PUP) capacity in synthetic urine solution of at least 39 g/g under a confining pressure of 0.7 psi after 4 hours, and a Ball Burst Strength (BBS) value of at least 50 gf; (ii) a PUP capacity in synthetic urine solution of at least 36 g/g under a confining pressure of 0.7 psi after 4 hours, and a BBS value of at least 100 gf; (iii) a PUP capacity in synthetic urine solution of at least 33 g/g under a confining pressure of 0.7 psi after 4 hours, and a BBS value of at least 150 gf; or (iv) a PUP capacity in synthetic urine solution of at least 30 g/g under a containing pressure of 0.7 psi after 4 hours, and a BBS value of at least 200 gf."

V. The Appellant submitted that the invention was sufficiently disclosed, since on the basis of the general description and the Examples of the patent in suit, the skilled person would have no difficulty in obtaining absorbent polymer compositions with the required minimum PUP and BBS values. More particularly, absorbent polymer compositions with such PUP values were well-known in the art at the filing date of the

application of the patent in suit. Furthermore, the simple combination of oppositely charged components in a mixed bed system was the single most important factor for obtaining the required PUP and BBS values, and with letter dated 17 November 2009, the Appellant filed a signed statement of one of the inventors, Mr Hird, confirming this view. The specification of the patent in suit also provided detailed information about the exact nature of the anion-exchange and cation exchange absorbent polymers to be used, including their ion-exchange capacities, the particle morphology, the nature of the polymers including their degree of crosslinking and neutralisation, as well as three examples, thus providing the skilled person with sufficient guidance to make educated choices in preparing the compositions of the invention, without the need for extensive experimentation. That a higher degree of crosslinking led to higher BBS at the expense of absorptive capacity was common general knowledge.

VI. The Respondent had no objections under Article 123(2) EPC to the amendments made to the claims of the main request. It submitted, however, that the invention was insufficiently disclosed, more particularly that the skilled person could not determine without undue burden which technical characteristics of the absorbent polymer compositions achieved the desired PUP and BBS values, the skilled person not being taught how to transform failure into success. In this respect, it argued that the specification of the patent in suit contained no information regarding how the PUP and BBS were related, if at all, and no indication of how or even whether the ion-exchange capacity of the individual polymers had any effect thereon. There

existed serious doubts as to whether certain particle morphologies described in the patent in suit could result in polymer compositions with the desired BBS values. Only Example 1 fell within granted claim 1, since no BBS values were given for the products of Examples 2 and 3. Thus the specification of the patent in suit, supplemented by common general knowledge, did not provide adequate information to allow the skilled person to carry out the invention without undue burden.

VII. The Appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of the main request filed during oral proceedings before the Board.

The Respondent requested that the appeal be dismissed.

VIII. At the end of the oral proceedings, the decision of the Board was announced.

Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

2.1 Claim 1 is based on granted claim 1, wherein the absorbent polymer composition is now specified as being a mixed bed ion exchange absorbent polymer, said mixed bed being disclosed on page 7, line 9 of the application as filed. The ion-exchange capacities of the anion- and cation-exchange absorbent polymers are now defined as being at least 10 meq/g and at least

4 meq/g, respectively, basis for these values being page 8, line 19 and page 10, line 23, respectively, of the application as filed. These two embodiments on pages 8 and 10 are linked, in that the paragraphs in which they are embedded both describe how to maximize the ion-exchange capacity of the mixed-bed ion-exchange absorbent polymer composition, namely that in each case, the respective ion-exchange capacity should be "high". "High" is then quantified as being at least 10 meq/g and at least 4 meq/g, respectively, these values being the respective lowest limits disclosed for what is meant by "high" in the patent in suit.

2.2 For these reasons, the Board concludes that the subject-matter of claim 1 does not extend beyond the content of the application as filed, such that the requirements of Article 123(2) EPC are satisfied.

2.3 These amendments bring about a restriction of the scope of the claims as granted, and therefore of the protection conferred thereby, which is in keeping with the requirements of Article 123(3) EPC.

3. *Sufficiency of disclosure (Article 100(b) EPC)*

3.1 The main issue to be decided in this appeal is whether or not the decision under appeal was right to find that the patent in suit did not disclose the claimed invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

3.2 It is the established jurisprudence of the Boards of Appeal that the requirements of sufficiency of disclosure are only met if the invention as defined in

the independent claim can be performed by a person skilled in the art in the whole area claimed without undue burden, using common general knowledge and having regard to further information given in the patent in suit (see decisions T 409/91, OJ EPO 1994, 653, point 3.5 of the reasons; T 435/91, OJ EPO 1995, 188, point 2.2.1 of the reasons). That principle applies to any invention irrespective of the way in which it is defined, be it by way of a functional feature or not. The peculiarity of the functional definition of a technical feature resides in the fact that it is defined by means of its effect. That mode of definition comprises an indefinite and abstract host of possible alternatives, which is acceptable as long as all alternatives are available and achieve the desired result. Therefore, it has to be established whether or not the patent in suit discloses a technical concept fit for generalisation which makes available to the person skilled in the art the host of variants encompassed by the functional definitions in the independent claim.

3.3 According to claim 1, the absorbent polymer composition should be a mixed bed ion exchange composition and comprise an anion- and a cation-exchange absorbent polymer having an ion-exchange capacity of at least 10 meq/g and of at least 4 meq/g, respectively, and possess certain minimum PUP and BBS values.

3.4 The feature most crucial for obtaining the required PUP and BBS values, as submitted by the Appellant and supported by the inventor's declaration of 17 November 2009, is the presence of a mixed bed, Tables 1 and 3 in the patent in suit demonstrating that precisely this

feature is of considerable significance for obtaining the required PUP and BBS values. More particularly, as further submitted by the Appellant, and not contested by the Respondent, the skilled person would have no problem achieving the desired PUP values, as absorbent polymer compositions with these values were well-known in the art at the filing date of the application of the patent in suit. The additional feature of a high BBS value is largely achieved by the mixed bed, this being plausible to the Board in view of the charged polyions at the surfaces of the polymer gel particles being inherently attracted to oppositely charged species in adjacent particles (see paragraphs [0057] and [0058] of the specification of the patent in suit). The patent in suit teaches how to maximise the ion-exchange capacities, the Appellant submitting that high ion-exchange capacities of both components was also crucial for achieving the required BBS values, since higher values led to greater adhesion and thus greater strength of the absorbent composition, said argument also being technically plausible to the Board. Furthermore, by introducing the ion-exchange capacities of both the anion- and cation-exchange absorbent polymers into the claim, the host of absorbent polymers from which the skilled person has to select in order to achieve the required PUP and BBS values has been significantly reduced. Finally, in order to aid selection of suitable polymers from said limited host, the specification of the patent in suit provides detailed information on the nature of the polymer, and the level of crosslinking and neutralisation thereof, for each of the anion- and cation-exchange absorbent polymers to be used in the absorbent composition (see paragraphs [0027] to [0029] and [0031] and paragraphs

[0033] to [0037] and [0039], respectively). Therefore the Board holds that the skilled person, using common general knowledge and the guidance given to him in the specification of the patent in suit, would be able, using routine skills, to carry out the invention in the whole area claimed without undue burden and without exercising any ingenuity.

3.5 For the following reasons, the Board is not convinced by the Respondent's submissions regarding lack of sufficiency of disclosure.

3.5.1 Firstly, the Respondent argued that the patent in suit gave no guidance as to how to choose the particular anion- and cation-exchange absorbent polymers in order to arrive at the minimum PUP and BBS values, no causal link having been provided between the structural information in the patent in suit and these functional features. The skilled person could thus not determine without undue burden which technical characteristics of the absorbent polymer compositions achieved the desired PUP and BBS values.

However, the presence of a mixed bed has been shown by the Appellant to be the crucial feature in the achievement of these values (see point 3.4 above). With regard to the selection of monomers from which the anion- and cation-exchange polymers are preparable, paragraphs [0027], [0028] and [0033] to [0036] of the patent in suit give sufficient guidance in this respect. It is common general knowledge, as submitted by the Appellant and not contested by the Respondent, and indicated in paragraph [0005] of the patent in suit, that a higher degree of crosslinking leads to higher

BBS and lower PUP values. How to maximise the ion-exchange capacity of the mixed-bed ion-exchange absorbent polymer composition is taught in paragraphs [0032] and [0040] of the patent in suit, it not being contested that the theoretical ion exchange capacities, as defined in paragraph [0018] of the patent in suit, may be routinely adjusted by altering the level of neutralisation, as described in paragraphs [0031] and [0039] of the patent in suit.

Thus, the selection of particular anion- and cation-exchange absorbent polymers involves merely a reasonable amount of trial and error for the skilled person, whereby he would be able to successfully reproduce the claimed invention. The Respondent did not provide any evidence that the skilled person would encounter serious difficulties when doing so, let alone that an undue burden was associated therewith. For these reasons, the Respondent's argument cannot convince the Board.

3.5.2 The Respondent also argued that with regard to the three types, (i) to (iii), of particle morphology described in paragraph [0042] of the patent in suit, it would not be possible to achieve the required BBS values with the latter two, namely (ii) and (iii), because the opposite charges had to be in different particles in order for the particles to adhere to one another, as described in paragraph [0057] of the patent in suit.

However, the Appellant explained that even if the particles contained domains of both anion- and cation-exchange polymers, the oppositely charged areas of such

particles could still be attracted to one another. The Board considers said argument to be technically sound, the Respondent, who bore the onus of proof, additionally having failed to provide evidence that it was not possible to achieve the required BBS values with these types of particle morphology.

3.5.3 The Respondent further argued that the specification of the patent in suit contained no information regarding how the PUP and BBS values were related, if at all.

However, as already stated in item 3.5.1 above, the fact that a higher degree of crosslinking leads to higher BBS and lower PUP values is common general knowledge, as also indicated in paragraph [0005] of the patent in suit.

3.5.4 Finally, the Respondent submitted that if a skilled person prepared a mixed bed ion-exchange absorbent polymer composition which had a PUP and/or BBS value falling outside the ranges claimed, the patent in suit did not provide any information as to how such a composition should be modified in order to bring it inside the claim.

However, given the restriction of the claim to a mixed bed and to specific minimum anion- and cation exchange rate capacities, together with the additional information concerning choice of polymer in the specification of the patent in suit, the chances of success are high and those of failure low, the Appellant arguing that the existence of the mixed bed alone rendering success extremely likely. Thus the

skilled person needs to perform only a limited number of tests, with a high probability of success.

3.6 For these reasons, in the Board's judgement, the invention as defined in claim 1 can be performed by a person skilled in the art within the whole area claimed without undue burden, using common general knowledge and having regard to further information given in the patent in suit, such that the opposition ground pursuant to Article 100(b) EPC is not justified.

4. *Remittal*

Having so decided, the Board has not taken a decision on the whole matter, since the Opposition Division decided solely on the issue of sufficiency of disclosure. As the Opposition Division has not yet ruled on the other grounds of opposition, the Board considers it appropriate to exercise the power conferred on it by Article 111(1) EPC to remit the case to the Opposition Division for further prosecution on the basis of the claim according to the main request in order to enable the first instance to decide on the outstanding issues.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance for further prosecution on the basis of the main request as filed during the oral proceedings before the Board.

The Registrar: The Chairman:

C. Rodríguez Rodríguez R. Freimuth