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D E C I S I O N
of 2 August 2000

Case Number: T 0978/97 - 3.3.4

Application Number: 92300964.1

Publication Number: 0498634

IPC: C14C 9/00

Language of the proceedings: EN

Title of invention:
The use of a polymeric retan fat liquor for low fogging upholstery leather

Patentee:
Rohm and Haas Company

Opponent:
Henkel Kommanditgesellschaft auf Aktien

Headword:
Low fogging leather/ROHM AND HAAS

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:
G 0002/88, G 0006/88, T 0231/85, T 0273/92, T 0327/92, T 0506/95

Catchword:
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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0978/97 - 3.3.4

D E C I S I O N
of the Technical Board of Appeal 3.3.4
of 2 August 2000

Appellant: (Proprietor of the patent)
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Representative:
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Respondent: (Opponent)
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 21 July 1997 revoking European patent No. 0 498 634 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: U. M. Kinkeldey
Members: D. D. Harkness
W. Moser

Summary of Facts and Submissions

I. European patent application No. 92 300 964.1 was granted as European patent No. 0 498 634 having the title "The use of a polymeric retan fat liquor for low fogging upholstery leather" there being one independent use claim and three claims appendant thereto. Claim 1 read as follows:

"1. Use of an aqueous dispersion or solution which is substantially free from organic solvents and which comprises an amphiphilic copolymer formed from

(i) more than 10% by weight to less than 50% by weight of acrylic acid or methacrylic acid; and

(ii) more than 50% by weight to less than 90% by weight of an alkyl acrylate or alkylmethacrylate;

for imparting low fogging characteristics to leather."

II. The patent was opposed and the Appellant (Patentee) filed a new request at oral proceedings before the opposition division having an amended main claim which read as follows:

"1. Use of an aqueous dispersion or solution which is substantially free from organic solvents and which comprises an amphiphilic copolymer, having a weight average molecular weight of from 2500 to 100,000 and formed from

(i) more than 10 % by weight to less than 50% by weight of acrylic or methacrylic acid and

(ii) more than 50% by weight to less than 90% by weight of a (C_4 to C_{12})alkyl acrylate or (C_4 to C_{12})alkyl methacrylate,

to manufacture vehicle upholstery leather having a fogging level lower than 2 mg as determined by gravimetric test as described in DIN 75201 (April 1988)."

III. The Opposition Division rejected this request and revoked the patent for lack of inventive step. The relevant documents for the decision to revoke were:

(1) EP-A-0 372 746

(3) Das Leder, 39. Jahrgang, pages 161 to 165 (1988).

Further documents cited by the Respondent (Opponent) and referred to in this decision are;

(2) EP-A-0 418 661

(4) Polish Patent 118 706

(5) Bibliothek des Leders, Band 4, Umschau Verlag Frankfurt, pages 93 to 95, 104, 189 to 192, 214 and 218 (1987).

IV. The reasons for the decision were that:

Example 3 of document (1) disclosed treating leather with an aqueous dispersion or solution which comprised (as a fat-liquoring agent) an amphiphilic copolymer formed from (i) 30% by weight of acrylic acid and (ii) 70% by weight of a ($C_4$to C_{12}) alkyl acrylate or

methacrylate (see table 3, compositions 13, 14 and 15).

Claim 1 under consideration modified the teaching of example 3 of document (1) merely to the effect that

(1) the known treatment is carried out as a step in a process for manufacturing vehicle upholstery leather,

(2) the leather manufactured by the process has a fogging level lower than 2 mg as determined by the gravimetric test described in DIN 75201 (April 1988),

(3) the aqueous dispersion or solution is substantially free from organic solvents, and

(4) the amphiphilic copolymer has a weight average molecular weight of from 2 500 to 100 000.

Having regard to the content of document (3), these features did render the claimed invention obvious for the purposes of Article 56 EPC.

V. The Appellant filed a notice of appeal, paid the appeal fee and submitted a statement of grounds.

The Appellant also drew attention to the following documents:

(6) JALCA, vol. 84, (1989), M. Kaussen, pages 353 to 368.

(7) World Leather, October/November 1991, page 40.

The arguments submitted by the Appellant can be summarised as follows:

The subject-matter of claim 1 under consideration was not solely distinguished from the teaching of Example 3 of document (1) on the basis of the four characterising features recited by the Opposition Division in their decision. In addition, the subject-matter of claim 1 was further and fundamentally distinguished from the teachings of Example 3 of document (1) in that the amphiphilic copolymer must be formed from A (C_4 to C_{12}) alkyl acrylate or (C_4 to C_{12}) alkyl methacrylate. Example 3 of document (1) provided no teaching to select the (C_4 to C_{12})alkyl (meth)acrylates of compositions 13, 14 and 15 in preference to the other compositions exemplified in the Example.

Indeed, the results of Example 3 of document (1), if anything, taught a preference for alkyl(meth)acrylates wherein the alkyl substituent comprised greater than 12 carbon atoms.

It was noted that in Table 1 of the patent in suit the measured amount of fogging from leathers treated with amphiphilic copolymers based on ethyl hexylacrylate, the most preferred amphiphilic copolymers of the patent in suit, when considered as a whole, were considerably less than the measured amount of fogging from leathers treated with the CEMA-based amphiphilic copolymer disclosed on page 6 line 29 of the patent-in-suit, which copolymer was closest to the most preferred copolymer disclosed in document (1).

Document (1) and the patent in suit were each concerned with overcoming very different problems, document (1)

addressed treating leathers to render them water-proof or water resistant whereas the patent in suit addressed treating leathers to render them very low fogging (less than 2 mg), but it was accepted that the skilled person would not overlook the general teachings of document (1) to use the longer chain alkyl(meth)acrylates in preference to the shorter chain alkyl(meth)acrylates in the preparation of the amphiphilic copolymers for treating leather.

However, since there was no teaching in document (1), either specific or general, which would direct a person skilled in the art to select the shorter chain alkyl(meth)acrylate-based amphiphilic copolymers, such as compositions 13, 14 or 15 in Example 3 of document (1), in preference to the longer chain alkyl(meth)acrylates for any application, let alone for their specific low fogging characteristics, it could not be obvious to select the shorter chain alkyl(meth)acrylates.

Given the above problem to find compositions other than the conventional fat liquors disclosed in document (3) which would be suitable for use to manufacture vehicle upholstery leather having a fogging level which was equal to, if not less than, the lowest recorded level of fogging obtained by using a conventional fat liquor (i.e. less than 2 mg), there was certainly no disclosure or teaching in document (3) of which other compositions could, let alone would, be used to impart these very low fogging characteristics to leather.

VI. The Respondent replied that he did not wish to repeat arguments presented in writing and at the oral proceedings before the Opposition Division and would

therefore rely upon his previous submissions made during the opposition. They can be summarised as follows:

The separate disclosures of documents (1), (2) and (4) were cited under Article 54 EPC, because they represented the use on leather of dispersions of the same agents as were employed in the patent in suit under the same conditions, thus necessarily giving rise to technical effects equivalent to those of the prior art.

Inventive step could not be recognised because the copolymers used in the patent in suit were known from documents (1) and (2), and from document (3) it was known that leather having good fogging characteristics was obtained when fat-liquors having components of low volatility, containing no organic solvents and which bind well with the leather were employed. The skilled person knew that polymers having carboxylic acid groups, eg, as described in documents (4) and (5), would bind well with leather, thus the use of such polymers to reduce fogging was obvious.

VII. Oral proceedings were appointed, and afterwards the Appellant requested a written provisional opinion from the Board. This was issued to the parties on 29 July 1999. The Respondent then submitted that he would not attend oral proceedings. Oral proceedings were cancelled.

VIII. The Appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the amended claims considered by the opposition division and appended to their decision of

21 July 1997.

The Respondent requested that the appeal be dismissed.

Reasons for the Decision

1. The appeal is admissible.

2. *Allowability of amendments, Article 123(2) and (3) EPC*

The main claim of the request before the Board differs from claim 1 as granted in that (a) a range for the weight average molecular weight of from 2500 to 100,000 is now given, (b) the alkyl in alkyl acrylate and alkyl methacrylate has been defined as having 4 to 12 carbon atoms and (c) the term "low fogging" has also been defined by reference to the DIN 75201 Standard.

These amendments find support in the European patent application as filed at (a) page 10 last paragraph, (b) page 9 last paragraph and (c) page 13 paragraph 2, thus the requirements of Article 123(2) EPC have been met. Such amendments are of a limiting nature and therefore the appellant has not amended the claims in such a way as to extend the protection conferred and, therefore, the requirements of Article 123(3) EPC are also met.

3. *Novelty, Article 54 EPC*

3.1 Since the request filed by the Respondent during oral proceedings before the Opposition Division related to revocation of the patent in suit for lack of inventive step and since a novelty objection was not mentioned in the decision issued after the oral proceedings nor

referred to in the minutes, the Board assumes that this point was not argued and was withdrawn. However, as the Respondent now relies in this appeal on the written submissions filed during the opposition and which included a novelty objection, the Board considers this point.

3.2 The Board agrees to the opinion of the Opposition Division, expressed in paragraph 4 of its communication of 16 January 1996, that, as acknowledged by the Respondent (letter dated 21 September 1994, page 4, third paragraph), none of the documents (1), (2) and (4) refers to an essential technical feature of the use claim of the patent in suit, namely, "low fogging", which therefore distinguishes the subject-matter from the prior art. Accordingly the cited prior art does not describe the use of amphiphilic copolymers as defined by the patent in suit in the treatment of leather to impart "low fogging" characteristics to it. Novelty is therefore acknowledged.

3.3 This conclusion is consistent with the established jurisprudence of the Appeal Boards of the European Patent Office, in particular, Appeal Board Decision T 231/85 (OJ EPO 1989, 74, paragraph 6 of the reasons) which held that the fact that a substance was known could not preclude the novelty of an unknown use of that substance, even if the new use did not require any technical realisation other than that for a previously known use of the same substance. In Enlarged Board of Appeal Decisions G 2/88 (OJ EPO 1990, 93, paragraph 10.3 of the reasons) and G 6/88 (OJ EPO 1990, 114, paragraph 9 of the reasons) it was stated that a claimed invention lacked novelty unless it included at least one essential technical feature which

distinguished it from the state of the art and such a feature may be the effect upon which the new use is based.

4. *Inventive step, Article 56 EPC*

The prior art

4.1 The disclosure of document (1) is essentially concerned with a one-step process to achieve retanning, fat-liquoring and waterproofing of leather by the application of an aqueous dispersion of an amphiphilic copolymer. Composition Examples 13, 14 and 15 of Table 3 employed amphiphilic copolymers prepared using 30% of acrylic acid with 70% of 2-ethylhexyl acrylate, or isodecyl methacrylate or lauryl acrylate, by method A (see pages 6 and 7 of document (1)) and therefore they were dispersed in t-butanol. Thus the aqueous medium for leather treatment did contain an organic solvent. This document was totally silent with respect to the problem of fogging and gave no information relevant to it.

4.2 Document (2) was published on 27 March 1991, ie. after the priority date of the patent in suit, and falls in the Article 54(3) EPC field. It is therefore not relevant for inventive step considerations.

4.3 The disclosure of document (3) concerns the problem of fogging and how it is affected by the constituents employed in the fat-liquoring process. The standard DIN 75201 is discussed and a comparison of the fogging characteristics of various fat-liquors was made. These contained eg, fish oil sulphonates, sulfited fish oil, sulfited wool fat and chloroparaffin sulfonate, the

best results in terms of total deposit being given by the sulfited fish oil.

4.4 Document (4) relates to the preparation of a dispersed 2-ethylhexyl acrylate copolymer with methacrylic acid in aqueous emulsion for retanning and filling of soft chrome tanned leathers resulting in resistance to ageing, low water uptake and without leading to stiffening of the leather fabric. There is no mention of the fogging problem.

4.5 Document (5) relates to the treatment of leather by conventional processing and, at page 189, paragraph 2, explains the fogging problem and links increased fat content of leather with increased fogging but does not give any solution to the problem other than the implied suggestion to use less fat in the fat-liquoring process.

4.6 From the analysis of the prior art given above it follows that only documents (3) and (5) discuss the problem of fogging caused by volatile constituents used in the various processing stages for the preparation of leather. Accordingly, since document (3) is the only document which discusses in detail the problem of fogging and also gives a solution to this problem, it is in the Board's opinion the closest prior art.

The problem to be solved

4.7 Having regard to the technical teachings of document (3), the problem with which the patent in suit is concerned relates to the provision of an alternative method for the production of leather for use in leather upholstery in vehicles, which leather shows low levels

of fogging of the glass windows in the vehicle.

The solution to the problem

4.8 This problem was solved in that the amphiphilic copolymers as defined in claim 1 were used in aqueous dispersion or solution being substantially free from organic solvents to impart low fogging characteristics defined in terms of the standard DIN 75201 to leather.

Assessment of inventive step

4.9 The solution to the fogging problem proposed by document (3) is to use sulfited fish oil or any of the other alternatives given therein, but it does not suggest the solution proposed by the Appellant, ie, aqueous application of amphiphilic copolymers as defined in claim 1.

4.10 Nor does document (5) give any indication in this direction because the only implied solution is that of reducing the amount of fat applied to the leather in fat-liquoring processes.

4.11 Accordingly, neither document (3) alone, nor its combination with document (5), would lead the skilled person to the solution to the problem.

4.12 Since the separate subjects of documents (1) and (4) are each unrelated to the problem solved by the patent in suit they are not relevant to the Article 56 EPC issue.

4.13 Finally, documents (6) and (7) filed by the Appellant show that the DIN 75201 standard test is established in

the art and that the results achieved by the patent in suit do represent an improvement over the prior art products.

4.14 This decision is in line with the established jurisprudence of the Board of Appeal, *inter alia*, T 327/92 (22 April 1997, see paragraph 3.3.2 of the reasons) stating that "a document could not qualify as the closest prior art to an invention merely because of similarity in the composition of the products, its suitability for the desired use of the invention also had to be specified".

Accordingly the subject-matter claimed in the patent in suit complies with the requirements of Article 56 EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the Opposition Division with the order to maintain the patent on the basis of (a) the claims filed at oral proceedings before the Opposition Division and (b) a description to be adopted to these claims.

The Registrar: The Chairwoman:

M. Kiehl U. Kinkeldey