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Datasheet for the decision of 17 November 2006

Case Number: T 0484/05 - 3.3.06

Application Number: 99938893.7

Publication Number: 1102827

IPC: C10G 45/58

Language of the proceedings: EN

Title of invention:
A lubricant base oil having improved oxidative stability

Patentee:
ExxonMobil Research and Engineering Company

Opponent:
CHEVRON USA, Inc.
Shell Internationale Research Maatschappij B.V.

Headword:
Free carbon index/EXXONMOBIL

Relevant legal provisions:
EPC Art. 83
EPC R. 88

Keyword:
"Admissibility of correction (no): correction not derivable directly and unambiguously - balance of probabilities not to be applied"
"Sufficiency of disclosure (no): erroneous information for measuring an unusual parameter essential for performing the invention"

Decisions cited:
G 0003/89, G 0011/91, T 0581/91, T 0795/92, T 1250/01

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0484/05 - 3.3.06

D E C I S I O N
of the Technical Board of Appeal 3.3.06
of 17 November 2006

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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 3 March 2005 revoking European patent No. 1102827 pursuant to Article 102(1) 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 revoke the European patent no. 1 102 827, concerning a lubricant base oil having improved oxidative stability.

II. In their notices of opposition the Opponents 01 and 02 sought revocation of the patent *inter alia* on the ground of Article 100(b) EPC.

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

- paragraphs 024, 025 and 026 of the patent in suit were interrelated and had thus to be considered as a whole and read in that sequence;

- paragraphs 025 and 026 gave further details about the free carbon index (hereinafter indicated as FCI) defined in paragraph 024;

- therefore, the skilled person would have immediately recognised that paragraph 026 contained an error and that this paragraph had to be corrected in the light of paragraph 024 by introducing the expression "**multiplied by the calculated average carbon number**" between the words "stocks" and "as calculated";

- the correction of paragraph 026 proposed by the Patent Proprietor was thus admissible under Rule 88 EPC;

- however, the patent in suit did not contain sufficient information enabling the skilled person to perform the invention without undue burden;

- therefore, the invention according to the then pending requests (claims 1 to 7 according to the main request filed with the letter dated 26 January 2004; claims 1 to 7 according to the first auxiliary request filed with the letter dated 29 October 2004; claims 1 to 5 according to the second auxiliary request filed as **set E'** during the oral proceedings held on 2 December 2004 and annexed to the minutes of the hearing) did not comply with the requirements of Article 83 EPC.

IV. An appeal was filed against this decision by the Patent Proprietor (Appellant).

The Appellant submitted with the grounds of appeal three new **sets of claims F, G and H** to be considered as third to fifth auxiliary requests respectively.

With the letter of 18 October 2006 the Appellant informed that he will not attend the oral proceedings scheduled on 17 November 2006 and filed a new **set of claims I**.

Although all parties had been duly summoned, oral proceedings were held before the Board on 17 November 2006 in the presence of Respondent 01 (Opponent 01) only.

V. The set of 7 claims according to the **main request** (claims filed with the letter dated 26 January 2004) comprises independent claim 6 reading as follows:

"6. A method for producing a lubricating base stock from a Fischer-Tropsch wax having improved oxidative stability comprising the steps of:
(a) separating the 700°F$^+$(371°C$^+$) fractions of a Hydroisomerized Fischer-Tropsch wax into a plurality of fractions,
(b) monitoring each of said fractions to identify fractions at least 90% of a mixture of branched paraffins wherein said branched paraffins are paraffins having a carbon chain length of C_{20} to C_{40}, a molecular weight of 280 to 562, a boiling range of 650°F to 1050°F (343°C to 566°C), and wherein said branched paraffins contain up to four alkyl branches and wherein the free carbon index of said branched paraffins is at least about 3,
(c) collecting said fractions of step (b) for use as a lubricant base oil."

The set of claims according to the **first auxiliary request** (claims filed with the letter dated 29 October 2004) contains 7 claims, claim 1 of which reads as follows:

"1. A method for producing a lubricating base oil having improved oxidative stability comprising:
hydroisomerizing a Fischer-Tropsch wax;
separating a hydrocarbon mixture from the hydroisomerized Fischer-Tropsch wax for use as the base oil, the hydrocarbon mixture comprising at least 90% of a mixture of branched paraffins, wherein said branched paraffins are paraffins having a carbon chain length of C_{20} to C_{40}, a molecular weight of 280 to 562, a boiling range of 650°F to 1050°F (343°C to 566°C), and wherein

said branched paraffins contain up to four alkyl branches and wherein the free carbon index of said branched paraffins is at least about 3."

Claim 1 of the set of 5 claims according to the **second auxiliary request (set E')** reads as follows:

"1. A method for producing a lubricating base oil having improved oxidative stability comprising:
hydroisomerizing a Fischer-Tropsch wax;
(a) separating the 700°F$^+$(371°C$^+$) fraction of the hydroisomerized Fischer-Tropsch wax into a plurality of fractions,
(b) monitoring each of said fractions to identify fractions having at least 90% of a mixture of branched paraffins wherein said branched paraffins are paraffins having a carbon chain length of C_{20} to C_{40}, a molecular weight of 280 to 562, a boiling range of 650°F to 1050°F (343°C to 566°C), and wherein said branched paraffins contain up to four alkyl branches and wherein the free carbon index of said branched paraffins is at least about 3,
(c) collecting said fractions of step (b) for use as a lubricant base oil."

The set of claims according to the **third auxiliary request (set I)** contains only one claim corresponding with claim 6 according to the main request.

The set of 7 claims according to the **fourth auxiliary request (set F)** comprises independent claim 6 differing from that according to the main request insofar as the fractions identified in the monitoring step (b) **are** a

mixture of branched paraffins having the properties listed in that claim.

Claim 1 of the set of 6 claims according to the **fifth auxiliary request (set G)** differs from claim 1 according to the first auxiliary request insofar as it specifies that a hydrocarbon mixture is separated from the 700°F$^+$(371°C$^+$) fraction of the hydroisomerized Fischer-Tropsch wax for use as the base oil and that the separated hydrocarbon mixture **is** a mixture of branched paraffins having the specific properties listed in the claim.

Claim 1 of the set of 5 claims according to the **sixth auxiliary request (set H)** differs from that according to the second auxiliary request insofar as the fractions identified in the monitoring step (b) **are** a mixture of branched paraffins having the properties listed in that claim.

VI. The Appellant submitted in writing *inter alia* that

- paragraphs 024, 025 and 026 of the patent in suit had to be considered as a whole and read in that sequence;

- the skilled person would have immediately understood that paragraph 026 contained an error and would have directly and unambiguously derived the missing expression from paragraph 024;

- therefore, the proposed correction of paragraph 026 was admissible under Rule 88 EPC;

- moreover, the skilled person would have been able to perform the invention without undue burden by following the teaching of the patent in suit and using his common general knowledge about thermal diffusion technique;

- therefore, the invention complied with the requirements of Article 83 EPC.

VII. The Respondents and Opponents submitted *inter alia* that

- it would have not been immediately evident to the skilled person that paragraph 0026 of the description had to be corrected as proposed by the Appellant and that nothing else could have been intended;

- moreover, even taking the whole of the description into account, it would have not been possible to conclude that the proposed correction was the only possible one;

- therefore, the proposed correction was not directly and unambiguously derivable from the patent in suit and had not to be allowed under Rule 88 EPC;

- since the FCI was an unusual parameter, the patent in suit had to disclose the method to be used for its measurement;

- however, the definition of the FCI in paragraph 024 was not that applicable to the claimed invention and that in paragraph 026 was erroneous; therefore, the patent in suit did not disclose unambiguously how this parameter had to be measured;

- the skilled person, even using common general knowledge, would have thus been unable to perform the invention by following the teaching of the patent in suit;

- therefore, the invention did not comply with the requirements of Article 83 EPC.

VIII. The Appellant requested in writing that the decision under appeal be set aside and that the case be remitted to the Opposition Division for further examination of matters other than Article 100(b) EPC on the basis of the claims according to the main request, filed with the letter of 26 January 2004 or, in the alternative, on the basis of the claims according to any of the first auxiliary request filed with the letter of 29 October 2004, of the second auxiliary request filed during the Opposition division hearing of 2 December 2004 (**set E'**), of the third auxiliary request filed with the letter of 18 October 2006 (**set I**), or of the fourth to sixth auxiliary requests filed with the statement of the grounds of appeal (**sets F, G and H** respectively).

IX. Respondent 01 requests that the appeal be dismissed. Respondent 02 submitted the same request in written form.

Reasons for the Decision

1. Main request

1.1 *Rule 88 EPC*

1.1.1 It is the established jurisprudence of the Boards of Appeal of the EPO that parts of an European Patent relating to the disclosure, e.g. to the description, can be corrected only within the limits of what the skilled person would derive directly and unambiguously, using common general knowledge and seen objectively and relative to the date of filing from the whole of the documents as originally filed. No correction is to be allowed if there is any doubt as to whether nothing else could have been intended other than what was offered as the correction (see headnote 1 and point 6 of the reasons for the decisions G 3/89, OJ EPO 1993, 117 and G 11/91, OJ EPO 1993, 125).

Paragraph 026 of the patent in suit reads: "The FCI is then the percent of ε methylenes measured from the overall carbon species in the ^{13}C NMR spectra of the base stocks as calculated from ASTM method 2502, divided by 100." (page 4, lines 48 to 49).

As agreed by all parties the skilled person would have immediately recognised that this paragraph contained an error. In fact, the percentage of ε methylenes cannot be calculated in the ^{13}C NMR spectrum by means of the ASTM method 2502, which is a standard method used for calculating the average carbon number of the isoparaffins mixture and which cannot give any

information as to the percentage of methylenes contained therein.

It remains thus to be assessed if the skilled person, using common general knowledge, would have derived directly and unambiguously from the whole of the documents as originally filed how paragraph 026 had to be corrected.

1.1.2 As submitted by the Respondents the FCI of branched paraffins was an unusual parameter at the filing date of the patent in suit and there did not exist any standard method belonging to common general knowledge for its measurement.

Paragraph 024 of the patent in suit explains that the FCI of an isoparaffin base stock can be determined by measuring the percent of methylene groups in an isoparaffin sample using ^{13}C NMR (400 megahertz); multiplying the resultant percentages by the calculated average carbon number of the sample determined by ASTM Test Method 2502 and dividing by 100 (page 4, lines 37 to 39).

The following paragraph 025 gives further information about the FCI and explains that the NMR spectrum of such an isoparaffin mixture gives only five non-equivalent adsorptions corresponding to the terminal methyl carbons (α), the methylenes from the second, third and fourth positions from the molecular ends (β, γ, and δ respectively), and to the other carbon atoms along the backbone which have thus a common chemical shift (ε). Similarly, the side branches on the backbone of an isoparaffin have unique chemical shifts and the

presence of a side chain causes a unique shift at the tertiary carbon (branch point) on the backbone to which it is anchored. Further, it also perturbs the chemical sites within three carbons from this branch point imparting unique chemical shifts (β', γ', and δ') (page 4, lines 40 to 47).

As agreed by all parties, the erroneous paragraph 026 reading "The FCI is then..." should thus report the method of measurement of the FCI to be used in the claimed invention. This paragraph, at variance with paragraph 024, relates explicitly to the percent of ε methylenes only and not to all the methylenes contained in the isoparaffin molecules (see point 1.1.1 above).

1.1.3 The Board finds that, reading paragraphs 024, 025 and 026 in combination, it can be assumed that the specific method disclosed in paragraph 026 has to be **probably** similar to that disclosed in paragraph 024 and that, consequently, the percentage of methylenes measured according to the method of paragraph 026 has to be also multiplied by the average carbon number as calculated by the given ASTM method.

However, paragraph 025 does not contain any indication that the ε methylenes **only** are important for the calculation of the FCI according to the claimed invention and that the other types of methylenes derived from the NMR spectrum should be disregarded. Moreover, example 1 does not explain how the FCI reported in table II on page 6 has been measured and does not contain sufficient information for understanding which methylenes have been considered for calculating the FCI.

Furthermore, the rest of the description does not contain any information which could be useful for understanding the way paragraph 026 has to be corrected.

Therefore, the Board finds that, by reading paragraphs 024, 025 and 026 as a whole, it is not possible to exclude that paragraph 026 contains other errors, for example, with regard to the kind of methylenes to be considered for the calculation, i.e. whether also other methylenes determined by means of the NMR spectrum should be taken into account.

Consequently, the correction proposed by the Appellant (see point III above) is not the only one which makes technical sense and it cannot be concluded that nothing else could have been intended.

1.1.4 The Board concludes that the skilled person would have thus not been able to derive directly and unambiguously the error contained in paragraph 026 from the documents of the patent in suit as originally filed.

Since a correction under Rule 88 EPC cannot be decided on the balance of probabilities (see e.g. T 581/91, point 3 of the reasons and T 795/92, point 2.3 of the reasons), the correction proposed by the Appellant is not admissible.

1.2 *Article 83 EPC*

1.2.1 The method of claim 6 according to the main request requires in a step (a) the separation of fractions of a hydroisomerized Fischer-Tropsch wax and in a step (b)

the identification of fractions having *inter alia* a FCI of at least about 3.

Since the FCI was an unusual parameter not belonging to common general knowledge at the filing date of the patent in suit, the description, for enabling the skilled person to perform the claimed invention, must contain sufficient information as to how this parameter has to be measured.

1.2.2 As agreed by all parties, the method to be used for calculating the FCI in accordance with the claimed invention is not that of paragraph 024 but that of the erroneous paragraph 026, since this paragraph reads "The FCI is then...".

1.2.3 However, as explained hereinabove, it is not possible to derive directly and unambiguously from the documents of the patent in suit as originally filed what had been intended in paragraph 026.

Therefore, the description of the patent in suit does not contain any indication as to how to measure the FCI of any fraction separated according to step (a) and does not enable the skilled person to identify a fraction having a FCI of at least about 3 as required in step (b) of claim 6. (see also T 1250/01, catchword).

The Board concludes that the disclosure of the invention does not enable the skilled person to perform the invention, even making use of his common general knowledge.

Therefore, the invention contravenes the requirements of Article 83 EPC.

1.2.4 Since the main request fails on these grounds there is no need to discuss the other grounds submitted by the Respondents.

2. First to sixth auxiliary requests

Since in the methods of each claim 1 according to the first, second, third, fifth and sixth auxiliary requests respectively, and of claim 6 according to the fourth auxiliary request it is essential to identify the fractions of branched paraffins separated by calculating their FCI, the reasoning put forward in point 1.2 above apply mutatis *mutandis* to all these requests.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

G. Rauh P.-P. Bracke