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D E C I S I O N
of 6 June 1994

Case Number: T 0658/92 - 3.3.1

Application Number: 88908026.3

Publication Number: 0387257

IPC: C10G 65/12

Language of the proceedings: EN

Title of invention:
Production of low pour point lubrication oils

Applicant:
Chevron Research and Technology Company

Opponent:
-

Headword:
A method for preparing a lubricating oil/CHEVRON

Relevant legal norms:
EPC Art. 54(1), (2), 111(1)

Keyword:
"Novelty - implicit disclosure - objection not based on verifiable facts"
"Remittal"

Decisions cited:
-

Catchword:

Europäisches Patentamt | European Patent Office | Office européen des brevets

Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0658/92 - 3.3.1

D E C I S I O N
of the Technical Board of Appeal 3.3.1
of 6 June 1994

Appellant: Chevron Research and Technology Company
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Decision under appeal: **Decision of the Examining Division of the European Patent Office of 14 January 1992 with written reasons posted on 10 March 1992 refusing European patent application No. 88 908 026.3 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: A. Jahn
Members: P. P. Bracke
R. Teschemacher

Summary of Facts and Submissions

I. European patent application No. 88 908 026.3 (published under the international publication No. WO 89/01506) was filed on 16 August 1988.

II. By a decision announced orally on 14 January 1992, with written reasons delivered on 10 March 1992, the Examining Division refused the application on the ground that the set of claims filed with letter of 9 January 1992 did not meet the requirement of novelty according to Articles 52 and 54(1) and (2) EPC over

D1: EP-A-0 209 997.

It was considered that this document described not only the catalytically dewaxing step but also the hydrocracking step of the claimed method. More particularly, it was argued that the hydrocracking process was that broadly defined in the present application, that the term "hydrocracking" was to be interpreted in its broader sense as "hydroprocessing" and, consequently, that D1, in which hydroprocessed stocks are described as a convenient source of starting material for the dewaxing process, discloses not only all the features of the claimed dewaxing step but also implicitly all the features of the hydrocracking step.

Moreover, as the distillate obtained by the hydrocracking process described in example 2 of the present application has the same characteristics as the hydrocarbonaceous feedstock fed to the dewaxing process described in example 2 of D1 it was concluded that such feedstock must with certainty have been obtained by a hydrocracking process.

III. An appeal was filed against this decision on 7 May 1992 and the appeal fee was paid on the same date.

In the statement of grounds of appeal filed on 10 July 1992 the Appellant argued that the term "hydrocracking" could not be interpreted as meaning "hydroprocessing" and he contested that it was implicitly disclosed in D1 that the oil fed to the dewaxing process is obtained by a hydrocracking process.

In support of his argumentation that "hydrocracking" may not be interpreted as meaning "hydroprocessing" the Appellant filed

D2: Ullmann's Encyclopedia of Industrial Chemistry, fifth, completely revised edition, volume A5, pages 334 and 335 (1986) and

an affidavit signed by Dr. Stephen J. Miller, stating that the terms "hydroprocessing" and "hydrocracking" define different processes, that the majority of lube oil is obtained by the solvent refining method and that a skilled person could not conclude from D1 with any certainty whether the lube oil used in the dewaxing process had been subjected to hydrocracking or solvent refining.

IV. The Appellant requested that the decision under appeal be set aside and a patent be granted on the basis of the Claims according to the main request or, alternatively, on the basis of the Claims according to the first or second subsidiary request. The three sets of Claims were filed with the statement of grounds of appeal.

The only independent claim according to the main request reads as follows:

"1. A method for preparing a lubricating oil having a low pour point, which comprises the following combination of unit processes:

(a) hydrocracking in a hydrocracking zone a hydrocarbonaceous feedstock at a temperature of from 250°C to 500°C, a pressure of 2930 KPa (425 psig) to 20684 KPa (3000 psig), a liquid hourly space velocity of from 0.1 h-1 to 50 h-1, and a hydrogen circulation rate of from 41 (400) to 1547 cm3/l (15000 SCF/bbl) to convert at least 10% of the feedstock to products boiling below 350°C and to obtain an effluent comprising a hydrocracked oil having an increase viscosity index of at least 10 VI units and a reduced nitrogen content, followed by

(b) catalytically dewaxing in a catalytic dewaxing zone the hydrocracked oil with a catalyst comprising a crystalline silicoaluminophosphate SAPO-11 and a metal selected from platinum or palladium, and optionally

(c) stabilizing said hydrocrackate by catalytic hydrofinishing before or after said dewaxing step."

Dependent Claims 2 to 7 define preferred subject-matter of the independent Claim.

The processes claimed in the subsidiary requests differ from the process according to the main request by a further specification of the hydrocracking catalyst (first subsidiary request) and, additionally, by the distillation of the hydrocrackate to remove those products boiling below 230°C (second subsidiary request).

Reasons for the Decision

1. The appeal is admissible.

Main request

Novelty

2. The hydrofinishing step is an optional step and, consequently, is not to be taken into consideration in assessing novelty.

D1 describes the catalytic dewaxing of hydrocarbon oil feedstocks by using a SAPO-11 catalyst and platinum or palladium, as defined in step b) of the claimed process (see e.g. example 2 of D1). This was not contested by the Appellant.

Consequently, the claimed process could differ from the processes described in D1 only by the fact that the hydrocarbonaceous feedstock fed to the dewaxing process is obtained by **hydrocracking** as defined in step a) of the present Claim 1.

Therefore, in assessing novelty of Claim 1 over D1 it is to be decided whether D1 implicitly disclosed that the hydrocarbon oil feedstock used in the dewaxing process described therein was obtained according to this hydrocracking process.

3. The only information which may be taken from D1 about the origin of the used feedstocks can be found on page 4, line 13 to page 5, line 17, where it is said that hydroprocessed stocks are a convenient source of stocks (page 4, lines 30 to 33). Therefore the main question to be solved in assessing novelty of the

claimed process over D1 is whether a skilled man would inevitably arrive with the term "**hydroprocessed** stocks" to "**hydrocracked** stocks" obtained by the features of step a).

4. Based upon the broad definition of the reaction conditions of the hydrocracking step in the claimed process and upon the fact that the distillate obtained by the hydrocracking process described in example 2 of the present application has the same characteristics as the hydrocarbonaceous feedstock fed to the dewaxing process described in example 2 of D1, the Examining Division came to the conclusion that the hydrocracking step as defined in the claimed process was implicitly disclosed in D1. However, it was admitted in the decision that nowhere in D1 was a detailed description given concerning the origin of the lube oils in the dewaxing process.

In support of its conclusion the Examining Division did not provide any evidence why, by carrying out the teaching of D1, the skilled person would inevitably arrive at a process according to Claim 1, which specifies the conditions of temperature, pressure, liquid hourly space velocity and hydrogen circulation rate.

The decision fails to set out in a verifiable way why compounds specified by a number of identical characteristics must automatically be obtained by such a process.

The mere allegation of the Examining Division that some features are implicitly disclosed in D1, without providing any proof, is contrary to the principle that in proceedings before the EPO objections against patentability have to be based on verifiable facts.

5. The Board considers it inappropriate to decide the issue of novelty on the basis of the evidence before it, in particular since, contrary to his allegations in appeal proceedings, the Appellant has accepted in the oral proceedings before the Examining Division that step a) of the present Claim 1 could be seen as "hydroprocessing" as described in D1 (contested Decision point 2, minutes of the oral proceedings point 4). On the one hand the Examining Division failed to cite any document supporting its allegation that the parameters quoted under a) of the present Claim 1 were so broadly defined that processes other than cracking would fall within the ambit of this Claim, so that the Board is unable to examine the correctness of the statements made in the decision under appeal. On the other hand, the evidence provided by the Appellant is not persuasive that hydrocracking according to the present Claim 1 is sufficiently distinct from hydroprocessing disclosed in D1 where it is indicated on page 5, lines 4 and 5, that some cracking occurs. Moreover in D2, Table 10, where the characteristics of the most important catalytic processes used in petroleum technology are summarised, the term "hydroprocessing" **as such** is not cited and it has not been argued or shown by the Appellant that "hydroprocessing" is synonymous with, for example, "hydrofining" or "hydrotreating". Consequently, this document cannot be considered as support for proving a difference between "hydrocracking" and "hydroprocessing".

Moreover, assuming that "hydrofining" or "hydrotreating" would be synonymous with "hydrocracking", it is doubtful whether it could be deduced from Table 10 in D2 that there is any difference between both processes, because from this Table it can only be deduced that both

processes may be conducted under the same pressure (10 MPa) without excluding the possibility that the other reaction conditions are the same.

6. Furthermore, a study conducted by the Board of several standard works did not reveal any documents from which it may unambiguously be derived whether "hydroprocessing" is synonymous with "hydrocracking" or not. This study revealed, for example,

D3= Kirk-Othmer, Encyclopedia of Chemical Technology, third edition, volume 17, pages 201-210 (1982),

from which it may only be concluded (Table 8) that hydrocracking at pressure conditions as in step a) of Claim 1 is a hydroprocessing operation. This, however, does not unambiguously prove that hydroprocessed oil is always hydrocracked oil.

7. In the affidavit it is stated that "**hydroprocessing**" may be used both in its general meaning embracing any treatment of a hydrocarbonaceous stream with hydrogen and in its more specific meaning to refer to relatively mild treatments to effect a change in that stream without conversion, contrary to "**hydrocracking**", referring to a treatment effecting a conversion of that stream.

However, this cannot be seen as unequivocal proof that the term "hydroprocessed stocks" in D1, page 4, line 30, is to be interpreted in its more specific meaning, referring to relatively mild treatments without effecting a conversion of the treated stream. When taking the teaching of D1 (page 5, line 4) into consideration, where it is said that cracking does occur, it could be concluded that the term

"hydroprocessing" is to be interpreted in its general meaning.

Additionally, the statements that the majority of lube oil in the world is obtained by the solvent refining method and that one skilled in the art could not conclude with any certainty from D1 whether the lube oil had been subjected to hydrocracking or solvent refining do not exclude the possibility that the term "hydroprocessed stocks" is to be interpreted as excluding hydrocracking. Moreover, those statements were not substantiated by any facts or data.

8. In these circumstances the Board finds that further investigation is indispensable and that it is appropriate for this to be undertaken by the first instance.

In view of the outcome of the appeal procedure, it appeared to the Board unnecessary to point out that the passage in Claim 1 ".. to obtain **an effluent comprising a hydrocracked oil having an increased viscosity index of at least 10 VI units**" does not correspond to the wording used in the originally filed application, where it is said on page 7, lines 26 and 27: "In the hydrocracking step, increases of at least 10 VI units will occur **in the lube oil fraction**".

Subsidiary requests

9. In the light of the above findings, it is not necessary to consider the Appellant's subsidiary requests.

10. Consequently, the Board makes use of its power under Article 111(1) EPC to remit the case to the Examining Division.

Order

For these reasons, it is decided that:

1. The decision is set aside.
2. The case is remitted to the first instance for further prosecution.

The Registrar: The Chairman:

E. Görgmaier A. Jahn