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D E C I S I O N
of 13 November 1998

Case Number: T 0256/96 - 3.3.1

Application Number: 88105669.1

Publication Number: 0286996

IPC: C10M 169/04

Language of the proceedings: EN

Title of invention:
Lubricating oil composition

Patentee:
Idemitsu Kosan Company Limited

Opponent:
Exxon Chemical Patents Inc.

Headword:
ATF's/IDEMITSU

Relevant legal provisions:
EPC Art. 54(2), 56

Keyword:
"Proceedings of colloquium - undated article of unidentified origin - no evidence for the proceedings' publication or the exact oral disclosure at the colloquium - not state of the art"
"Inventive step (yes) - solution not suggested by the state of the art"

Decisions cited:

-

Catchword:

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Boards of Appeal

Chambres de recours

Case Number: T 0256/96 - 3.3.1

D E C I S I O N
of the Technical Board of Appeal 3.3.1
of 13 November 1998

Appellant:
(Opponent)

Exxon Chemical Patents Inc.
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Representative:

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Respondent:
(Proprietor of the patent)

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Representative:

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Decision under appeal:

Interlocutory decision of the Opposition Division
of the European Patent Office posted 12 February
1996 concerning maintenance of European patent
No. 0 286 996 in amended form.

Composition of the Board:

Chairman: A. J. Nuss
Members: P. P. Bracke
W. Moser

Summary of Facts and Submissions

- I. The appeal lies from the Opposition Division's interlocutory decision, announced orally on 30 January 1996, with the reasoned decision being issued on 12 February 1996, maintaining the European patent No. 0 286 996 in amended form.
- II. The Opposition Division considered that the lubricating oils according to the then pending main request were obviously derivable from the cited documents, whereas those according to the then pending auxiliary request were not.
- III. The main request consisted of 3 claims, with the only independent claim reading:
- "1. A lubricating oil composition comprising:
- (A) a base oil having a naphthene content of at least 30%, an aromatic content of not more than 2%, a kinematic viscosity at 100°C of from $1,5 \cdot 10^{-6}$ to $30 \cdot 10^{-6}$ m²/s (1.5 to 30 cSt), a viscosity index of at least 80 and a pour point of not more than -30°C; and
- (B) 0.01 to 5% by weight based on the total weight of the composition of a friction modifier, which is at least one compound selected from the group consisting of phosphoric acid esters, phosphorous acid esters, amine salts of phosphoric acid esters, amine salts of phosphorous acid esters, sorbitan fatty acid esters, pentaerythritol fatty acid esters, tetraesters being excluded, glycerine fatty acid esters, trimethylolpropane fatty acid esters, triesters being excluded, glycol fatty acid esters, neopentyl glycol

fatty acid diesters being excluded, carboxylic acids, carboxylic acid amides, carboxylic acid esters, dicarboxylic acid esters being excluded, metal salts of carboxylic acids, fats and oils; higher alcohols and sulfur-containing compounds."

IV. The Opposition Division found that the compositions according to the then pending main request were obviously derivable from the cited documents, because base oils, as the ones defined in Claim 1, were known from document

(7) SAE Paper 821242 entitled "Significant Considerations in Selecting Base Stocks for Automatic Transmission Fluids",

wherein it was also taught that base oils for automatic transmission should have frictional stability, and because the friction modifiers were known from document

(4) Proceedings of 5th. International Colloquium, 14 to 16 January 1986, Pages 5.1-1 to 5.1-10, "Friction reducers for engine and gear oils - A review of the state of the art" by A.G. Papay.

V. Appeals have been lodged by both the Proprietor of the patent in suit (Appellant-proprietor) and the Opponent (Appellant-opponent).

VI. During oral proceedings before the Board of Appeal, which took place on 13 November 1998, the Appellant-proprietor maintained, as the only request, a set of 3 claims, filed on 17 July 1996 as "auxiliary request", which correspond with the 3 claims according to the main request, underlying the contested decision.

Although the Appellant-opponent was duly summoned to the oral proceedings before the Board, he was not represented there.

VII. The Appellant-opponent argued in his written submissions that the claimed compositions were obvious over the combined teaching of any of documents (7),

(2) US-A-3 595 797, and

(8) SAE Paper 821235 entitled "Hydrotreated Lube Oil Base Stocks"

with document (4), because the oils fulfilling all the parameter requirements of the oil base (A), as defined in the patent in suit were known from any of the documents (2), (7) and (8) and the criteria for selecting suitable friction modifiers were well established, as may be derived from document (4).

VIII. The Appellant-proprietor submitted that the base oil (A) of the claimed compositions was not known from any of the cited documents. Since any hint could also not be found in document (4) that the specific friction modifiers in the claimed compositions were able to solve the technical problem of shift-shock in automatic transmissions, he was of the opinion that the claimed compositions were not obviously derivable from the cited prior art documents.

Moreover, he objected that it was not clear when document (4) had been published and that it was not known which content of document (4) had been actually submitted at the colloquium.

IX. The Appellant-opponent requested (in writing) that the decision under appeal be set aside and that the patent be revoked.

The Appellant-proprietor requested that the decision under appeal be set aside and that the patent be maintained, on the basis of Claims 1 to 3 filed on 17 July 1996 as auxiliary request, and pages 2 to 9 of the description submitted during oral proceedings.

Reasons for the Decision

1. The appeal is admissible.
2. *Amendments*

The Board is satisfied that the claims 1 to 3 are not amended in such a way that they contain subject-matter which extends beyond the content of the application as filed or that they are amended as to extend the protection conferred. Since this was contested neither by the Appellant-opponent nor by the Opposition Division, no detailed reasoning needs to be given.

Moreover, by the amendments on page 2, line 46 and on page 3, lines 13 to 15 of the patent in suit, the description is brought into conformity with the wording of the claims, and by the amendment on page 2, line 58 it is made clear that the base oil (A) itself must meet the parameter requirements as defined in Claim 1, as it was defined in Claim 1 of the application as filed and of the patent as granted.

Therefore, the patent in suit, in its amended form, meets the requirements of Article 123(2) and (3) EPC.

3. *State of the art according to Article 54(2) EPC*

During the written appeal proceedings the Appellant-proprietor requested that the Appellant-opponent should clarify when document (4) had been finally published and which content had actually been submitted at the international colloquium.

In the absence of any reaction to those requests on the part of the Appellant-opponent, the Board, contrary to the Opposition Division, does not see any evidence which would support that document (4), in its present written form and being undated, was publicly available before the effective filing date of the patent in suit. Moreover, the examination of this document does not allow to identify this document as corresponding to the proceedings of the said fifth international colloquium which took place in January 1986.

Additionally, the Appellant-opponent did not provide any evidence that during the international colloquium, held on 14 to 16 January 1986, any disclosure of technical information corresponding totally or partly with the content of document (4) is likely to have taken place.

Therefore, the Board concludes that neither document (4) itself nor any part of its content can be state of the art in the sense of Article 54(2) EPC.

4. *Novelty*

The Board is satisfied that the claimed subject-matter is not disclosed in any of the citations and is, therefore, novel. Since novelty was contested neither by the Appellant-opponent nor by the Opposition Division, no detailed reasoning needs to be given.

5. *Inventive step*

- 5.1 The patent in suit concerns lubricating oils which are useful in automatic transmissions, and which are designed to reduce the shift shock.

In order to determine which of the three remaining documents (2), (7) and (8) represents the closest state of the art for the purpose of assessing inventive step, it is necessary to establish first which technical information each of them provides.

Document (2) relates to hydrocarbon base stocks which comprise at least two branched paraffin oils having a different NMR spectrum and, optionally, a phosphorus-containing friction improver and which are useful as traction fluids for automotive variable speed traction drive automotive transmissions (column 1, lines 13 to 22; column 2, lines 8 to 11; and column 12, lines 54 to 55).

Document (7) concerns the use of base stocks in automatic transmission fluid's (ATF's) (page 107, left-hand column, fourth paragraph of "Abstract") and it further teaches that the blends should have an oxidation and frictional stability and provide *inter alia* satisfactory shift performance in automatic transmission tests (page 110, left-hand column, second paragraph of "Field Testing").

Document (8) concerns a hydrotreating process for the manufacture of lubricating oil stocks (page 1, left-hand column, first sentence) whereby on page 4, left-hand column, first paragraph under the heading

"Performance of Automotive Products" it is said that very satisfactory performance in fully formulated automotive products using these hydrotreated base stocks has been reported in document (7).

5.2 Since document (7) is the only document which mentions the shift performance of ATF's, the Board considers document (7) to represent the closest state of the art.

5.3 According to the patent in suit, a tendency toward miniaturization of an automatic transmission has been increasingly developed, which makes a driver more sensitive to the shift shock. Thus, in order to reduce the shift shock and to make a car more comfortable to drive, the frictional characteristics of the lubricating oil, especially at an initial stage, must be improved without losing other properties relevant for the use in automatic transmissions, whereby an especially important requirement is that the ratio of coefficient of static friction (μ_0) to coefficient of kinematic friction (μ_{1200}) as a measure of frictional characteristics is small (see page 2, lines 8 to 13 and 17 to 26).

Thus, starting from document (7) the technical problem to be solved can only be seen in providing a lubricating oil composition suitable for use in lubrication of an automatic transmission and having improved shift shock and a satisfying oxidation stability and corrosion-preventing ability.

5.4 The solution offered in the patent in suit to the above stated problem is a lubricating oil composition as defined in Claim 1, consisting in essence of compounding a specified proportion of a friction modifier to a base oil having specified properties (see point III above).

In view of the data in the only Table of the patent in suit, the Board is satisfied that the claimed lubricating oil compositions provide for oxidation stability and corrosion-preventing ability and that by selecting a base oil according to present Claim 1 the ratio of coefficient of static friction to coefficient of kinematic friction (μ_0/μ_{1200}) is small, which has not been contested to stand for improved shift shock.

5.5 Therefore, in view of the cited state of the art, the only remaining question to be decided is whether it could be expected by a skilled person to compound 0.01 to 5% by weight of a friction modifier as defined in Claim 1 to a base oil meeting the parameter requirements defined in Claim 1 in order to try to solve the above stated problem.

5.6 The Opposition Division essentially argued that such effect could have been expected, since oil bases, as defined in present Claim 1, were known as 60N and 80N Universal ATF Formulations from Table 11 in document (7), from which it was also known that oils for automatic transmission should have frictional stability and satisfactory shift performance (page 110, left-hand column, second paragraph under the heading "Field Testing").

However, the said Table 11 mentions "Universal ATF Formulations" instead of base oils and on page 108, right-hand column, lines 28 to 35, and page 109, left-hand column, lines 1 to 5, it is said that the viscosity index and the pour point of the base stocks used in the tests are subject to influence by adding viscosity improvers and pour point depressants. Moreover, the Appellant-proprietor has pointed out that quite a number of statements to oils blended with additives are contained in document (7) (see letter dated 18 June 1996, point 2), which the Appellant-

opponent did not contest. Therefore, in the absence of any indication in document (7) that the 60N and 80N Universal ATF formulations do not contain additives, document (7) does not describe base oils having that combination of naphthene and aromatic contents, kinematic viscosity, viscosity index and pour point as defined in present Claim 1.

Moreover, although it is taught on page 110, left-hand column, lines 35 to 40, that the tested fluids demonstrate oxidation and frictional stability and provide satisfactory shift performance after running 90 000 km in urban coach service without drain, document (7) does not mention the specific problem of shift-shock.

Consequently, in the Board's judgement, a skilled person when trying to solve the above stated problem could not derive from document (7) which friction modifiers should be compounded with which base oils.

5.7 The Appellant-opponent also argued that the claimed lubricating oil compositions were obvious in view of the teaching of either of document (2) or document (8) in combination with the common general knowledge, as presented in document (4) (no state of the art as set out in point 3 above).

5.7.1 The Appellant-opponent admitted that none of the oils specifically described in document (2) meets all the parameter requirements of the base oils according to present Claim 1. However, he submitted that it had not been demonstrated that the viscosity index or pour point are critical parameters in the solution of the problem and, therefore, that these parameters are irrelevant when considering a distinction from the prior art. Since some of the oils specifically described in document (2) have a naphthene content, an

aromatic content and a kinematic viscosity within the ranges defined in Claim 1, he was of the opinion that the base oils, as defined in present Claim 1, were known from document (2).

The Board must observe that the contention that some parameters of the lubricating oil as defined in Claim 1 are not critical is not supported by any kind of evidence. The onus of proof for that contention is on the Appellant-opponent as the challenging party and not on the Appellant-proprietor.

Since it is the gist of the claimed invention that lubricating oil compositions containing a base oil (A) meeting all the parameter requirements of naphthene content, aromatic content, kinematic viscosity, viscosity index and pour point, as defined in Claim 1, and 0.01 to 5% by weight of at least one of the friction modifiers listed in Claim 1 must be used, the question whether one of the parameters of the base oil (A), considered individually, is a critical parameter for solving the problem underlying the invention is not relevant in the present case.

Therefore, in the absence of any evidence showing that lubricating oil compositions according to Claim 1 would not solve the underlying problem, the Board comes to the conclusion that in defining any distinction from the prior art the combination of all the parameters should be taken into consideration, contrary to the view expressed by the Appellant-opponent.

- 5.7.2 Since document (8) does not provide more information concerning base oils as document (7), the considerations made in respect with document (7) also apply to this document.

5.7.3 Moreover, since none of those documents mentions the problem of reducing the shift-shock, the Board comes to the conclusion that the claimed lubricating oil compositions were not rendered obvious by the teaching of document (2) or (8), either taken alone or in combination.

6. In view of the above and since the description is duly adapted to the present claims, the grounds for revoking the patent in suit do not prejudice the maintenance of the patent according to Appellant-proprietor's request.

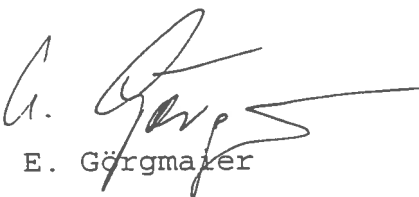
Order

For these reasons it is decided that:

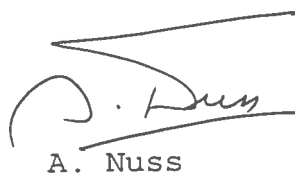
1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent on the basis of the following documents:

claims 1 to 3 filed on 17 July 1996 as auxiliary request and pages 2 to 9 of the description submitted during oral proceedings.

The Registrar:


E. Görgmayer

The Chairman:


A. Nuss

