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D E C I S I O N  
of 3 March 1997

Case Number: T 0854/93 - 3.3.1

Application Number: 90200552.9

Publication Number: 0393732

IPC: C10M 141/08

Language of the proceedings: EN

Title of invention:  
Thermooxidatively stable compositions

Applicant:  
KING INDUSTRIES, INC.

Opponent:  
-

Headword:  
Thermooxidatively stable composition/KING INDUSTRIES, INC.

Relevant legal provisions:  
EPC Art. 52, 54(1)(2)

Keyword:  
"Novelty - yes, after amendment"

Decisions cited:  
T 0012/90

Catchword:  
-



Case Number: T 0854/93 - 3.3.1

D E C I S I O N  
of the Technical Board of Appeal 3.3.1  
of 3 March 1997

Appellant: KING INDUSTRIES, INC.  
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Decision under appeal: Decision of the Examining Division of the  
European Patent Office posted 3 June 1993  
refusing European patent application  
No. 90 200 552.9 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: A. J. Nuss  
Members: P. Krasa  
R. E. Teschemacher

## Summary of Facts and Submissions

I. This appeal lies from the decision of the Examining Division refusing the European patent application No. 90 200 552.9 (publication No. 0 393 732), filed on 9 March 1990, relating to thermooxidatively stable compositions.

II. In the decision under appeal, which was based on Claims 1 to 25 as submitted by the Appellant (applicant) by a letter dated 8 July 1992, the Examining Division refused the application on the ground that the subject-matter of Claim 2 (then the product claim with the broadest scope) was not new over the document

- (3) Japanese Patent Gazette, week X32, 15 September 1976, section Ch, vol. 9, class H, abstract no. J50034003, Derwent Publications Ltd, London, GB.

Furthermore, the Examining Division found, that the subject-matter of the then pending independent Claims 24 and 25 was also anticipated by this document.

The decision under appeal refers also to the following documents:

- (1) EP-A-0 285 711
- (2) EP-A-0 295 108
- (4) US-A-3 772 197.

III. The Appellant, with his statement of grounds for appeal, submitted an amended set of 19 claims and amended pages 1 to 3, 3A, 3B, 4, 4A, 5, 6 to 14, 16, 19 to 24, 27 to 35, 37 to 40, 42, and 43 of the

description. In reply to a communication from the Board, the claims were further amended by the Appellant's letter of 18 December 1995. Claim 1 as amended reads:

"A composition comprising:

- (A) an organic compound which is thermooxidatively unstable; and
- (B) a thermooxidative stabilising composition to thermooxidatively stabilize said organic compound at temperatures greater than 150°C comprising:
  - (i) an oil soluble barium, calcium, magnesium or zinc salt of an alkylaryl sulfonic or petroleum sulfonic acid having a molecular weight above 325;
  - (ii) at least one primary antioxidant being selected from the group consisting of methylene bis-4,4'-2,6-di-t-butyl phenol, 4,4'-dioctyldiphenylamine, alkylated phenyl-alpha-naphthylamine, t-butyl phenol derivatives, alkylated diphenylamines, phenylalphanaphthylamine, sulfur containing hindered bisphenols, or a mixture of any of the foregoing;
  - (iii) an optional secondary antioxidant selected from the group consisting of zinc diamyldithiocarbamate and zinc dibutyldithiocarbamate; and

(iv) an optional carrier, which may be the same as or different than said organic compound, for said thermooxidative stabilizing composition and is selected from the group consisting of waxes, esters, halocarbon fluids, polyalphaolefins, polyglycols, mineral oils, or mixtures of any of the foregoing."

IV. The Appellant requested that the decision under appeal be set aside and a patent be granted on the basis of the set of claims submitted together with the Grounds for Appeal, dated 12 August 1993 as amended with the letter of 18 December 1995.

#### Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

2.1 The amended Claim 1 results from original Claim 2 by the incorporation of features, which are supported by the application documents as filed:

That component (B) is a composition "... to thermooxidatively stabilize said organic compound at temperatures greater than 150°C ..." is supported by the description as filed, page 13, lines 20 to 25 in combination with, e.g. original Claim 22; the definition of component (B)(i) is supported by original Claim 4; the definition of component (B)(ii) is supported by original Claim 16; the definition of component (B)(iii) is supported by original Claim 18

and page 11, lines 20 to 23 of the description as filed; and the definition of component (B)(iv) is supported by original Claim 19 in combination with original Claim 3.

2.2 The amended Claim 2 is supported by original Claim 8 in combination with Claim 1 as filed. Claims 16 and 18 as amended correspond to original Claims 25 and 26, respectively, the support for the features specified in respect to components (B), (B)(i), (B)(ii), (B)(iii), and (B)(iv) is the same as given above in relation to Claim 1. Claims 17 and 19 as amended correspond to original Claims 22 and 23, in each case in combination with Claim 8 as originally filed.

2.3 The dependent Claims 3 to 15 find their support in the original Claims 3, 5 to 7, 9 to 13, 18, 20, 24, and 21, respectively.

2.4 Therefore, the Board concludes that no objections arise against amended Claims 1 to 19 under Article 123(2) EPC, nor do such objections arise against the amendments of the description as submitted together with the Grounds for Appeal.

### 3. *Novelty*

3.1 Document (3) relates to the inhibition of sludge formation in hydraulic oils and discloses that in

"... an example, no sludge was observed in 225 ml. oil to which Ba sulphonate 1 and octyldiphenylamin 1 wt.% were added, when the oil was used for 500 hr. with 25 ml. cutting oil as a contaminant" (emphasis added).

Thus, while this document specifies two components of the compositions of present Claim 1, i.e. "oil", which corresponds to component (A), and "octyldiphenylamin", which is an alkylated diphenylamin and, therefore, falls within the definition of component (B)(ii), it contains no information regarding the specific chemical nature of sulfonic acid from which the "Ba sulphate" results. By way of contrast, Claim 1 of the application in suit requires that the sulphonic acid underlying the metal salts and in particular the Ba salts to be used as component (B)(i) have to be

- (a) **alkylaryl** sulphonic acids or **petroleum** sulphonic acids having
- (b) a **molecular weight** of above 325.

These two distinguishing features, both related to the structure of the component (B)(i), constitute a new technical element (see T 0012/90, No. 2.6 of the Reasons for the Decision, not published in the OJ EPO) rendering new the compositions of Claim 1 of the application in suit in respect to those compositions as disclosed in citation (3).

- 3.2 From document (1), relating to thermally stable sulphonate compositions, and document (2), relating to corrosion inhibiting compositions, compositions are known, which comprise, e.g. barium, zinc, or magnesium dinonylnaphthalene sulphonate (document (1), Claim 11) or calcium 4-(C<sub>12</sub>-alkyl)-3,5-dimethyl benzene sulphonate (document (2), page 4, example 4 in combination with example 2), all these sulphonates falling within the definition of the component (B)(i) of present Claim 1. However, as far as the component (B)(ii) according to this claim is concerned, both citations contain only the passing remark that the compositions concerned may

also contain other additives, "... such as antioxidants ...", without giving any further information on their chemical nature (document (1), page 11, lines 17 to 19 and document (2), page 3, lines 59 to 60). The Board considers the specification of the antioxidants (B)(ii) in Claim 1 of the application in suit to be a new element or, in other words, a new information which could not be found in or be deduced directly and unambiguously by a skilled person from the respective disclosure of the citations (1) and (2). Therefore, the Board concludes that the compositions as claimed are novel over each of the citations (1) and (2).

3.3 Document (4), which relates to antioxidant additives for lubricating oils, discloses an antioxidant composition comprising, preferably, the barium or calcium salts of alkyl aryl sulphonic acids with a molecular weight in the range of from 400 to 520 (column 2, line 62 to column 3, line 4), these salts falling within the definition of the component (B)(i) of present Claim 1. However, the compositions known from the document (4) do not contain the antioxidants defined as the mandatory component (B)(ii) of the compositions according to Claim 1 of the application in suit. Therefore, document (4) does not anticipate the subject-matter of present Claim 1.

3.4 Independent Claim 16 of the application in suit is directed to a method for stabilizing a thermooxidatively unstable organic compound by blending with said compound a thermooxidative stabilizing composition which is as defined in Claim 1. Independent Claim 18 of the application in suit is directed to a thermooxidative stabilizing composition which is as defined in Claim 1. As these claims comprise the same distinguishing features as Claim 1, their subject-matter is novel over citations (1) to (4), as are the dependent Claims 2 to 15, 17 and 19.



4. Therefore, the Board concludes that the subject-matter of Claims 1 to 19 meets the requirements of Article 52 and 54(1) EPC. It follows that the decision of the Examining Division has to be set aside. However, the Examining Division has not yet decided whether or not the claimed invention fulfills the requirements of Article 56 EPC in respect to inventive step. The case is therefore remitted under Article 111(1) EPC to the Examining Division for further prosecution.

## Order

For these reasons it is decided that:


1. The decision of the Examining Division is set aside.
2. The case is remitted to the Examining Division for further prosecution on the basis of Claims 1 to 19 submitted with the Grounds for Appeal, dated 12 August 1993, as amended by the Appellant's letter of 18 December 1995.

The Registrar:



E. Götgmaier

The Chairman:



A. Nuss

