

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 18

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

Ex parte RICHARD S. GATES and STEPHEN M. HSU

---

Appeal No. 1997-1538  
Application 08/184,172<sup>1</sup>

---

ON BRIEF

---

Before SCHAFER, LEE and TORCZON, Administrative Patent Judges.

SCHAFER, Administrative Patent Judge.

**MEMORANDUM OPINION AND ORDER**  
**Decision on Appeal under 35 U.S.C. § 134**

This is an appeal from the final rejection of claims 13-27. The examiner asserts the following grounds of rejection (Examiner's Answer, Paper 12, p. 2):<sup>2</sup>

1. Claims 13 and 16-22 have been rejected under 35 U.S.C. § 112, ¶ 1, "for failing to provide support in the specification"; and

---

<sup>1</sup> Application for patent filed January 19, 1994.

<sup>2</sup> Additional grounds of rejection were made in the final rejection (Paper 7). These rejections are deemed withdrawn in view of the failure to repeat them in the examiner's answer.

2. Claims 14 and 23 have been rejected under 35 U.S.C. § 103(a) as unpatentable over a publication authored by Gates et al.<sup>3</sup>

We reverse. We also enter a new ground of rejection of claim 13.

**The claimed subject matter**

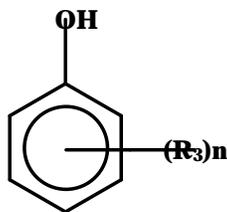
The invention relates generally to methods for lubricating silicon nitride. The lubricant includes an alcohol compound. The preferred alcohols are said to be aromatic alcohols. We select claim 13 as representative for rejection 1 and claim 14 as representative for rejection 2. 37 CFR § 1.197(c)(7). Claim 13 does not specify any particular alcohol requiring only that the alcohol have “lubricating activity” and is not “a glycol or 2,6-ditertiarybutylcresol.” Claim 14 specifies four generic groups of aromatic alcohols. Claims 13 and 14 as they appear in the appendix to applicants’ brief are reproduced below:

13. A method for lubricating a silicon nitride ceramic surface which comprises: applying to the silicon nitride ceramic surface a composition comprising an alcohol compound, in an amount sufficient to provide a lubricating effect, wherein said alcohol has lubricating activity and is other than a glycol or 2,6-ditertiarybutylcresol.
14. A method for lubricating a silicon nitride ceramic surface which comprises: applying to the silicon nitride ceramic surface a composition comprising an alcohol compound, in an amount sufficient to provide a lubricating effect,  
wherein said alcohol compound is selected from the group consisting of:

---

<sup>3</sup> “Effect of Selected Chemical Compounds on the Lubrication of Silicon Nitride,” Vol. 34, Tribology Transactions, p. 417-425 (1991).

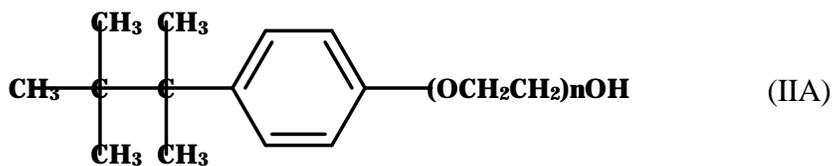
an aromatic alcohol of the formula (I),



(I)

wherein  $R_3$  is independently hydroxy, alkyl of 1-15 carbon atoms or a polyethoxy chain of 1 to 9 ethoxy units, and  $n$  is 1 or 2, provided that when  $R_3$  is hydroxy  $n$  is 1; an alkanol or alkenol of 6-18 carbon atoms;

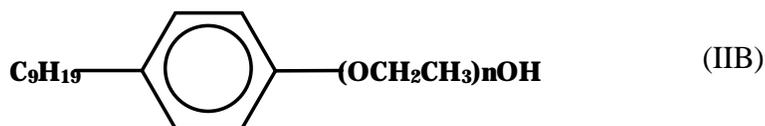
an alcohol of the formula (IIA),



(IIA)

wherein  $n$  is 1-18;

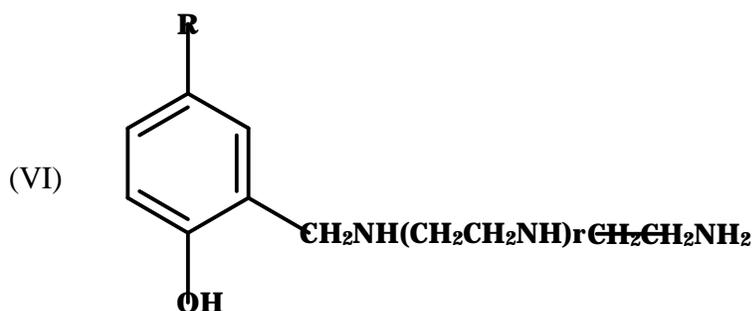
an alcohol of the formula (IIB),



(IIB)

wherein n is 4-15;

a Mannich reaction product of the formula (VI),



wherein R is alkyl of 3-8 carbon atoms and r is 1-4; and mixtures thereof.

**The rejection under 35 U.S.C. § 112, ¶ 1**

The examiner has rejected claims 13 and 16-22 under 35 U.S.C. § 112, ¶ 1, “for failing to provide support in the specification” of the subject matter of claims 13 and 16-22.

The examiner’s statement that the claims fail to be “supported” by the specification is ambiguous as to which of the requirements of the first paragraph of § 112 is thought not to have been met. Based upon a review of the applicants’ brief and the examiner’s Answer, we assume that the rejection is based upon an alleged failure to provide a written description for the requirement in claim 13 that the alcohol “is other than a glycol or 2,6-ditertiarybutylcresol.”

To comply with the written description requirement, the specification must provide information that clearly allows persons having ordinary skill in the art to recognize that the applicant invented what is claimed. Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991); In re Gosteli, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989). In Vas-Cath

the court noted that the disclosure must "convey with reasonable clarity to those skilled in the art that, as of the filing date sought, [the inventor] was in possession of the invention." Vas-Cath, 935 F.2d at 1563-64, 19 USPQ2d at 1117 (emphasis original). The court went on to state that the "invention is, for the purpose of the 'written description' inquiry, whatever is now claimed." Vas-Cath, 935 F.2d at 1564, 19 USPQ2d at 1117 (emphasis original).

The examiner bears the burden of establishing the prima facie case of unpatentability. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Fritch, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); In re Rhinehart, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976). To meet this burden, the examiner must present a factual basis supporting the conclusion that a prima facie case exists. In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967); In re Lunsford, 357 F.2d 385, 392, 148 USPQ 721, 726 (CCPA 1966); In re Freed, 425 F.2d 785, 788, 165 USPQ 570, 572 (CCPA 1970).

In the examiner's view the negative limitation that the alcohol "is other than a glycol or 2,6-ditertiarybutylcresol" is a new concept not present in the original disclosure and therefore violates the description requirement. The examiner relies on a published non-precedential opinion<sup>4</sup> of one of our predecessors, the Board of Appeals, Ex parte Grasselli, 231 USPQ 393 (Board App. 1983). The board stated:

Despite appellants' arguments to the contrary, we agree with the examiner's position of record that the negative limitations recited in the present claims, which did not appear in the specification as filed, introduce new concepts and violate the description requirement of the first paragraph of 35 U.S.C. 112. In re Anderson, 471 F.2d 1237, 176 USPQ 331 (CCPA 1973). The examiner's distinctions between the present case and the prior decisions cited by appellants are correct and we adopt his position in that regard as our own. It might be added that the express exclusion of certain elements implies the permissible

---

<sup>4</sup> Non-precedential opinions are not binding on subsequent panels of the board.

Appeal No. 1997-1538  
Application 08/184,172

inclusion of all other elements not so expressly excluded. This clearly illustrates that such negative limitations do, in fact, introduce new concepts.

Grasselli, 231 USPQ at 394.

Applicants rely on In re Johnson, 558 F.2d 1008, 194 USPQ 187 (CCPA 1977), apparently for the proposition that a subgenus generated by the removal of specifically disclosed species from the broader genus is not a violation of the written description requirement.

Applicants and the examiner each apparently argue for the application of a per se rule which results in either a reversal or affirmance of the rejection depending on whose per se rule we apply. However, no such per se rules exist. Whether the description requirement has been satisfied depends of the particular facts of each case. The specification as a whole must be analyzed to determine whether the written description allows a person of ordinary skill in the art to recognize that applicants invented the claimed subject matter. Vas-Cath, 935 F.2d at 1563-64, 19 USPQ2d at 1116. In order to meet the burden of establishing the prima facie case, the examiner must explain why one having ordinary skill in the art would not recognize that the applicants invented the subject matter they now claim. The examiner has not provided the necessary explanation. Merely pointing to the fact that the specification did not expressly state the negative limitation does not meet this burden. "It is not necessary that the claimed subject matter be described identically [in the written description] . . . ." In re Wilder, 736 F.2d 1516, 1520, 222 USPQ 369, 372 (Fed. Cir. 1984); In re Lukach, 442 F.2d 967, 968-69, 169 USPQ 795, 796 (CCPA 1971) (The written description requirement does not require in haec verba antecedence in the originally filed application).

The examiner has failed to show, prima facie, that the written description requirement has not been met for the subject matter of claim 13. Accordingly, we reverse the rejection of claims 13 and 16-22.

**The rejection under 35 U.S.C. § 103(a)**

The examiner rejected claim 14 under 35 U.S.C. § 103(a) as unpatentable over the Gates reference.

In making the obviousness determination, the changes or differences between the prior art and the claimed invention is an important consideration. As noted by the Federal Circuit "the changes must be evaluated in terms of the whole invention, including whether the prior art provides any teaching or suggestion to one of ordinary skill in the art to make the changes that would produce the [claimed invention]." In re Chu, 66 F.3d 292, 298, 36 USPQ2d 1089, 1094 (Fed. Cir. 1995), quoting Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 935, 15 USPQ2d 1321, 1324 (Fed. Cir. 1990). The examiner notes that Gates teaches the use of polypropylene diols and triols (glycols) and 2,6-ditertiarybutyl-p-cresol. However, these glycols and the cresol are not within the scope of claim 14. The examiner has not directed us to a teaching of any compounds that fall within formulas (I), (IIA), (IIB) and (IV) of claim 14. Thus, it appears that the difference between the subject matter of claim 14 and Gates resides in the use of the alcohols having the structures set out in formulas (I), (IIA), (IIB) and (IV). The examiner has not identified the portion of Gates which provides the suggestion or teaching that would motivate the person of ordinary skill in the art to use any of the specific alcohols required by claim 14. In the absence of a teaching, suggestion or explanation of the motivation, the examiner has not made out a prima facie case of unpatentability under § 103(a). Accordingly, the rejection of claims 14 and 23 is reversed.

**New Ground of Rejection**

Appeal No. 1997-1538  
Application 08/184,172

Claim 13<sup>5</sup> is rejected under 35 U.S.C. § 102(b) as unpatentable over Tsunai<sup>6</sup> or Hibi.<sup>7</sup> Both references are of record in the application file.

Each reference describes applying a composition comprising an alcohol compound, to a silicon nitride ceramic surface, in an amount sufficient to provide a lubricating effect, wherein said alcohol has lubricating activity and is not a glycol or 2,6-ditertiarybutylcresol. The n-alcohols described in the references fall within the alcohols defined in claim 13. Tsunai states:

The experimental results showed that Si<sub>3</sub>N<sub>4</sub> is lubricative with the n-alcohols, not only with the higher alcohols of Nc\$5, but also with the lower alcohols of Nc# 4, even at low sliding speed.

Tsunai, p. 373. Hibi has a similar teaching relating to two series of experiments which demonstrate the lubricating effect of n-alcohols:

In the first series of experiments, both the friction and wear were significantly higher in water than in the n-alcohols. The friction coefficient was 0.78 in water, 0.14 in the n-alcohols for Nc# 4 and 0.09 for 5 # Nc # 10. Wear in n-alcohols was minimal: it decreased with an increase of Nc for Nc # 4 and it was very small for Nc \$ 5. In methanol even small concentrations of water degraded both the friction and wear characteristics.

The second series of experiments showed that hydrodynamic lubrication did not occur in water or in nonanol in the velocity range tested (up to 800 mm/s), but it was obtained in methanol and in ethanol at a velocity of 800 mm/s for the range of load and speeds examined. The wear in water was more than 10 times greater than that in lower alcohols.

Hibi, p. 1.

---

<sup>5</sup> We have not considered the patentability of any other claims with respect to this new ground of rejection.

<sup>6</sup> Y. Tsunai et al., "Tribological Wear of Silicon Nitride in Water, n-Alcohols and their Mixtures," Wear of Materials, p. 369-374 (1989)

<sup>7</sup> Y. Hibi et al., "Friction and Wear of Silicon Nitride in Water, n-Alcohols, Water-Methanol and Water-Glycol," Bulletin of Mechanical Engineering Laboratory, Japan, No. 53, p. 1-15 (1990).



Appeal No. 1997-1538  
Application 08/184,172

RICHARD TORCZON )  
Administrative Patent Judge )

RES:yrt

cc: MILLEN, WHITE, ZELANO and BRANIGAN  
Arlington Courthouse Plaza I  
Suite 1400  
2200 Clarendon Boulevard  
Arlington, VA 22201