

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

Ex parte JAMES V. CRIVELLO and MINGXIN FAN

---

Appeal No. 1996-3214  
Application No. 08/195,897<sup>1</sup>

---

ON BRIEF

---

Before WINTERS, WILLIAM SMITH, and KRATZ, Administrative Patent Judges.

KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

---

<sup>1</sup> Application for patent filed February 14, 1994. According to appellants, this application is a continuation of Application No. 07/896,935, filed June 11, 1992, now abandoned.

This is a decision on appeal from the examiner's final rejection of claims 14 through 20, which are all of the claims pending in this application.

#### BACKGROUND

Appellants' invention relates to an in situ catalyst preparation method that prevents colloid formation including the steps of: (1) forming a hydrosilation reaction mixture containing; (a) an ethylenically unsaturated epoxide, (b) either an organohydrogen siloxane or an organohydrogensilane, (c) a quaternary ammonium, phosphonium, or arsonium salt of a specified formula, and (d) a catalytic material comprising a salt of hexahaloplatinic acid (specification, page 16, line 24 through page 17, line 3); and (2) reacting the salt with the catalytic material to form a product hydrosilation catalyst in situ. According to appellants' specification (pages 9 and 10), the onium salt is believed to stabilize platinum, for example, as a quaternary bis(onium) hexahaloplatinate catalyst product. Thus, the formation of colloidal platinum is allegedly discouraged. Exemplary claims 14 through 17 are reproduced below.

14. A method of preventing colloid formation by a haloplatinate catalyst for the hydrosilation of vinyl epoxides comprising the steps of:

(I) providing a hydrosilation reaction mixture comprising an ethylenically unsaturated epoxide and an organohydrogen siloxane or an organohydrogensilane

(ii) mixing in the mixture of step (I) a quaternary ammonium, phosphonium or arsonium salt, said salt containing a cationic species of the formula



where M is nitrogen, phosphorus, or arsenic and the R groups are, individually, organic radicals comprising C<sub>1-30</sub>, substituted or unsubstituted, linear alkyl, or an aryl, alkaryl or aralkyl radical and haloplatinate hydrosilation catalyst; and

(iii) reacting the salt with the catalyst to form in situ a haloplatinate hydrosilation catalyst in the hydrosilation mixture and whereby said salt prevents colloid formation of said catalyst.

15. The method of claim 14 wherein the quaternary salt is tetra-n-butyl ammonium bromide.

16. The method of claim 15 wherein the hexahaloplatinic acid is potassium hexachloroplatinate.

17. The method of Claim 14 wherein the hexahaloplatinic acid is added after quaternary ammonium, phosphonium or arsonium salt has been added to the hydrosilation mixture.



Claims 14-20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Gorshkov in view of Mendicino.

Pursuant to the provisions of 37 CFR § 1.196(b), we make the following new rejection: Claims 14-20 are rejected under 35 U.S.C. § 112, second paragraph as failing to particularly point out and distinctly claim that which applicants regard as invention.

OPINION

We have carefully reviewed the respective positions advanced by appellants and the examiner. In so doing, we concur with appellants that the applied prior art fails to establish a *prima facie* case of obviousness of the claimed subject matter. Accordingly, we will not sustain the examiner's rejection.

All of the appealed method claims require the in situ production of a haloplatinate hydrosilation catalyst via the reaction of a quaternary ammonium, phosphonium, or arsonium salt of a formula as specified in claim 14 with a haloplatinate material. The claimed process requires that the above noted reaction occurs in the presence (in situ) of the reaction mixture the resultant catalyst product material catalyzes;

i.e., (1) an ethylenically unsaturated epoxide and (2) an organohydrogen siloxane or an organohydrogensilane.

Mendicino discloses the addition of a hydrogen chloride acceptor such as a **tertiary** amine to a reaction mixture of an unsaturated epoxy compound and silicon hydride compounds including silanes and siloxanes (column 3). A chloroplatinic acid catalyst is employed for the reaction.

Gorshkov compares the use of Tetraorganoammonium salts of platinum with chloroplatinic acid for catalyzing the vulcanization of siloxane rubber via a hydrosilation reaction.

Our review of Gorshkov reveals a lack of any teaching or suggestion therein of the in situ formation of a catalyst as claimed herein via reaction of a quaternary ammonium, phosphonium, or arsonium salt as specified in claim 14 with a haloplatinate material in the presence of a reactant mixture as called for in claim 14, the sole independent claim on appeal. Nor has the examiner pointed to any disclosure of Mendicino that would have suggested to one of ordinary skill in the art the addition of a **quaternary** ammonium, phosphonium, or arsonium salt as specified in appealed claim 14 to the reaction mixture

of Mendicino so as to react with a haloplatinate material to form a catalyst as claimed herein. The examiner's position regarding the obviousness of adding an onium salt as an "inhibiting functional compound" to the reaction mixture (presumably of Mendicino) prior to platinum catalyst addition to forestall composition decolorization (answer, page 4) is manifestly untenable on this record.

It is well settled that the examiner has the initial burden of establishing a *prima facie* case of obviousness. *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). This burden can be satisfied when the examiner provides objective evidence that some teaching or suggestion in the applied prior art, or knowledge generally available, would have led one of ordinary skill in the art to combine the teachings of the references and to produce the claimed subject matter. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). The teaching or suggestion must be in the prior art, and not in the applicants\* disclosure. *In re Dow*

*Chemical Co.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1532 (Fed. Cir. 1988).

In the case before us, the examiner has not provided a single convincing reason, based on the applied references, or general knowledge, as to why it would have been obvious to one of ordinary skill in the art to arrive at the claimed method of forming a catalyst in situ as claimed herein. Indeed, in reviewing the references relied on by the examiner in this appeal, we cannot discern a supportable basis on which a conclusion of obviousness may be reached consistent with the examiner's rejection.

In conclusion, the examiner has not discharged the initial burden of explaining how the combined disclosures of the applied references would have rendered the claimed subject matter before us obvious, within the meaning of 35 U.S.C. § 103. Accordingly, the stated rejection cannot be sustained.

**Rejection of Claims 14-20 Pursuant to 37 CFR § 1.196(b)**

Claims 14-20 are rejected under 35 U.S.C. § 112, second paragraph as failing to particularly point out and distinctly claim that which applicants regard as invention. The relevant inquiry under 35 U.S.C. § 112, second paragraph, is whether the

claim language, as it would have been interpreted by one of ordinary skill in the art in light of appellant's specification and the prior art, sets out and circumscribes a particular area with a reasonable degree of precision and particularity. See In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

Here, we note that claim 14 calls for the in situ reaction of "a haloplatinate hydrosilation catalyst" with a specified quaternary salt to form a "haloplatinate hydrosilation catalyst". The specification, particularly at page 16, line 24 through page 17, line 3 clearly identifies a salt of hexahaloplatinic acid (e.g., potassium hexachloroplatinate) as the platinum containing material to be reacted with the quaternary salt. When we interpret the above identified claim language in light of the specification, we determine that the claimed "haloplatinate hydrosilation catalyst" reactant language appears inconsistent therewith and to be of indeterminable meaning. This inconsistency is further exemplified by the language of dependent claims 16 through 18, wherein "the hexahaloplatinic acid" is recited without apparent antecedent support in claim 14 from which these claims

ultimately depend. In addition, claim 18 is internally inconsistent in describing hexahaloplatinic **acid** as being identical with potassium hexachloroplatinate, a **salt**. The latter inconsistency further confuses the meaning of the claim language as it would be construed by one of ordinary skill in the art. Moreover, we observe that the aforementioned claim language further lacks clarity on consideration of the meaning thereof in light of the seemingly inconsistent language of original claim 4<sup>3</sup> of parent Application No. 07/896,935, which claim recites a salt of haloplatinic acid as a reactant for forming the catalyst salt.

Appellants' comments, of record, have been considered but are not found convincing of the compliance of the above-noted language with the requirements of the second paragraph of 35 U.S.C. § 112 for the reasons expressed above. We note that claims may be rejected as being indefinite if they do not

---

<sup>3</sup> We note that appellants should compare the claim language herein with the language of claim 4 of their U.S. Patent No. 5,583,194, which issued from application No. 08/195,792 filed as a division of the same application (Appl. No. 07/896,935) that is identified as the parent application of the present continuation application. A copy of this patent is being forwarded to appellants together with this decision.

describe what applicants regard as their invention and/or omit essential elements, steps or necessary structural cooperative relationship of elements. See *In re Collier*, 397 F.2d 1003, 1005, 158 USPQ 266, 267 (CCPA 1968).

Under the circumstances recounted above, we consider claims 14-20 to be ambiguous in describing that which applicants regard as invention and, as a result, as failing to comply with 35 U.S.C. § 112, second paragraph. Compare, e.g., *Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Int. 1990).

#### OTHER ISSUES

In the event of further or continuing prosecution, the examiner and appellants should also consider whether or not the claimed subject matter has descriptive and/or enabling support in the original disclosure within the meaning of 35 U.S.C. § 112, first paragraph in light of amendments presented.

#### CONCLUSION

The examiner's decision to reject claims 14-20 under 35 U.S.C. § 103 as being unpatentable over Gorshkov in view of Mendicino is reversed.

Pursuant to the provisions of 37 CFR § 1.196(b), the following new ground of rejection has been made. Claims 14-20 are rejected under 35 U.S.C. § 112, second paragraph as failing to particularly point out and distinctly claim that which applicants regard as invention.

This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b) (amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53, 131, 53, 197 (Oct. 10, 1997), 1203 off. Gaz. Pat. & Trademark Office 63,122 (Oct 21, 1997) ). 37 CFR § 1.196 (b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196 (b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (§ 1.197 (c)) as to the rejected claims:

- (1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the

examiner, in which event the application  
will be remanded to the examiner. . . .

(2) Request that the application be reheard  
under § 1.197 (b) by the Board of Patent Appeals  
and Interferences upon the same record . . . .

**REVERSED - 37 CFR § 1.196 (b)**

SHERMAN D. WINTERS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
	)	BOARD OF PATENT
WILLIAM F. SMITH	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
	)	
PETER F. KRATZ	)	
Administrative Patent Judge	)	

JOHN L. YOUNG  
GE PLASTICS  
ONE PLASTICS AVE.  
PITTSFIELD, MA 01201