

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 38

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SHINSUKE MORIKAWA,
KEIICHI OHNISHI, HIDEKAZU OKAMOTO
and
TOSHIHIRO TANUMA

Appeal No. 1997-0551
Application 08/157,429

HEARD: September 14, 2000

Before WALTZ, KRATZ and JEFFREY T. SMITH, ***Administrative Patent Judges***.

KRATZ, ***Administrative Patent Judge***.

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Application 08/157,429

DECISION ON APPEAL

This is a decision on appeal from the examiner's refusal to allow claims 9-37, all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to a method of reacting tetrafluoroethylene with dichlorofluoromethane to produce 3,3-dichloro-1,1,1,2,2-pentafluoropropane and 1,3-dichloro-1,1,2,2,3-pentafluoropropane in the presence of a catalyst comprising a halogenated oxide of at least one element as variously specified in the appealed claims. A further understanding of the invention can be derived from a reading of exemplary claim 9, which is reproduced below.

9. A method for producing 3,3-dichloro-1,1,1,2,2-pentafluoropropane and 1,3-dichloro-1,1,2,2,3-pentafluoropropane, which comprises reacting tetrafluoroethylene with dichlorofluoro-methane in the presence of a catalyst comprising a halogenated oxide

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containing at least one element selected from the group consisting of Ti, Zr, Hf, V, Nb, Ta, B, Ga, In and Tl.

The references of record relied upon by the examiner in rejecting the appealed claims are:

Yale 1968	3,381,042	Apr. 30,
Seigneurin 1974	3,795,710	Mar. 05,
Aoyama et al. (Aoyama) 1991 ¹ (Published European Patent Application)	0 421 322	Apr. 10,

¹ Appellants have not challenged the availability of Aoyama as prior art to the herein claimed subject matter in their briefs. However, appellants claim a November 27, 1990 priority date under 35 U.S.C. § 119 based on a prior filing in Japan via parent application No. 07/915,819 for which 35 U.S.C. § 120 benefits are claimed. We will treat Aoyama as if the subject matter disclosed in that publication and relied upon by the examiner were available prior art in deciding this appeal (see appellants' specification, pages 1 and 2). Any error that may be present in such treatment of Aoyama is harmless in light of our disposition of the examiner's rejection. The discussion in the briefs and answer regarding the merits of appellants' priority claim based on another filing in Japan on June 03, 1991 are not germane to the issues raised by this appeal since that priority claim does not affect the prior art status of any of the references which the examiner continues to rely upon in the rejection that remains before us (answer, pages 2 and 4-7).

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Claims 9-37 stand rejected under 35 U.S.C. § 103 as being unpatentable over Seigneurin, Yale and Aoyama (answer, pages 4-6). We reverse.

OPINION

Upon careful review of the entire record including the respective positions advanced by appellants and the examiner, we find ourselves in agreement with appellants that the examiner has failed to carry the burden of establishing a *prima facie* case of obviousness. *See In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d

1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1471-1472, 223 USPQ 785, 787-788 (Fed. Cir. 1984). Accordingly, we will not sustain the examiner's rejection.

When an examiner is determining whether a claim should be rejected under 35 U.S.C. § 103, the claimed subject matter as a whole must be considered. *See In re Ochiai*, 71 F.3d 1565, 1569, 37 USPQ2d 1127, 1131 (Fed. Cir. 1995). The subject matter as a whole of process claims includes the

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starting materials and product made. When the starting and/or product materials of the prior art differ from those of the claimed invention, the examiner has the burden of explaining why the prior art would have motivated one of ordinary skill in the art to modify or select from the materials of the prior art processes so as to arrive at the claimed invention. **See *Ochiai***, 71 F.3d at 1570, 37 USPQ2d at 1131. In the present case, the examiner has not carried this burden.

In particular, we note that the examiner has not adequately explained how and why one of ordinary skill in the art would have been led to modify the process of Yale by employing the catalyst of Seigneurin so as to arrive at appellants' process as called for in any of the claims on appeal (answer, pages 4-7).

Concerning this matter, we observe that the examiner is of the opinion that Yale discloses a process identical to appellants' claimed process including the reaction of tetrafluoroethylene with dichlorofluoromethane using barium fluoride catalyst to

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produce 1,1-dichloro-2,2,3,3,3-pentafluoropropane but for the catalyst (answer, paragraph bridging pages 4 and 5). However, the claimed process on appeal herein requires the production of 1,3-dichloro-1,1,2,2,3-pentafluoropropane in addition to the other penta-fluoropropane produced. Additionally, the only specific disclosure to the production of 1,1-dichloro-2,2,3,3,3-pentafluoropropane in Yale appears to be the result of the reaction of tetrafluoroethylene with cesium fluoride and chloro-form as reported in Example 4 of Yale. Hence, the examiner's position on Yale's teachings is not in accord with the patent specification of Yale. While dichlorofluoromethane is disclosed as a possible reactant in Yale (column 1, lines 58-67), there is no disclosure of the presently claimed catalyst for use with that particular reactant or the obtention of the reaction products called for in the appealed claims using dichlorofluoromethane as a reactant.

Seigneurin (column 2, lines 50-60) discloses, *inter alia*, a process for reacting a fluoro-halogenated ethylene

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derivative such as tetrafluoroethylene, difluorodichloroethylene or trifluorochloroethylene, preferably 1,2-difluorodichloro-ethylene with a halogenated methane such as carbon tetrachloride, chloroform and methylene chloride to form fluoro-chlorinated propane. Production of a difluorohexachloropropane is exemplified in Seigneurin as a product. Seigneurin does disclose BF_3 as a known catalyst for forming halogenated propane derivatives and gallium halides (gallium chloride or gallium bromide) as catalysts as generally noted by the examiner (answer, page 4). However, the combined teachings of Yale and Seigneurin do not suggest the particular reaction called for in the appealed claims. Nor can we follow, much less agree with, the examiner's logic in combining the teachings of those references so as to somehow arrive at the process claimed herein.

The third reference the examiner applies, Aoyama, actually does teach a process for forming products from the reaction of reactants as called for by appellants' claims. The use of an anhydrous aluminum chloride catalyst or an aluminum

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chlorofluoride including oxygen in accordance with a specified formula is taught. Aoyama does not disclose the herein claimed catalyst that requires the presence of an element other than aluminum as variously specified in the appealed claims.

Even given Aoyama's teachings, the examiner has not fairly explained how the combination of Aoyama with Yale and Seigneurin would have suggested the claimed process to one of ordinary skill in the art (see answer, pages 6 and 7). Here, the examiner has not adequately set forth why or how one of ordinary skill in the art would have arrived at the selection of a catalyst combination including the catalyst of Aoyama together with the catalyst of Seigneurin for the herein claimed process with a reasonable expectation of success from the combined teachings of Yale, Seigneurin and Aoyama given that Yale and Seigneurin do not specifically disclose the production of the same products from the same reactants as of interest to Aoyama.

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To establish a *prima facie* case of obviousness, an examiner must explain why the teachings of the prior art would have suggested the claimed subject matter to one of ordinary skill in the art. *See In re Rinehart*, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976). The mere fact that the prior art could be modified as proposed by the examiner is not sufficient to establish a *prima facie* case. *See In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992).

Significantly, we additionally find that the claimed process is limited to a catalyst containing an oxide, halogen and at least one element as variously specified in the appealed claims. The examiner's supposition that a halogenated oxide as claimed would include products wherein no oxygen remains (answer, page 5) is not in accord with the plain meaning of the claim language requiring an oxide, albeit a halogenated one. That construction is consistent with the appellants' specification (see, e.g., pages 2-8) and arguments (reply brief, pages 2, 3, 7 and 8). In this regard, it is

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well settled that every claim limitation must be considered in determining patentability. **See *In re Geerdes***, 491 F.2d 1260, 1262-63, 180 USPQ 789, 791 (CCPA 1974).

In the absence of sufficient factual evidence or scientific rationale on the part of the examiner to establish why and how a skilled artisan would have arrived at appellants' process from the applied references' teachings as discussed above, we find that the examiner has failed to meet the initial burden of establishing the ***prima facie*** obviousness of the claimed

subject matter. Accordingly, we are constrained to reverse the examiner's rejection.

Since we reverse for the lack of the presentation of a ***prima facie*** case of obviousness by the examiner, we need not reach the issue of the sufficiency of the evidence in the specification as allegedly demonstrating unexpected results. **See *In re Geiger***, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987).

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CONCLUSION

The decision of the examiner to reject claims 9-37 under 35 U.S.C. § 103 as unpatentable over Seigneurin, Yale and Aoyama is reversed.

REVERSED

	THOMAS A. WALTZ)	
	Administrative Patent Judge)	
)	
)	
)	BOARD OF
PATENT)	
	PETER F. KRATZ)	APPEALS AND
	Administrative Patent Judge)	
INTERFERENCES)	
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)	
	JEFFREY T. SMITH)	
	Administrative Patent Judge)	

PFK:psb

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