

Appeal No. 95-2742
Application 08/006,411

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(2) is not binding precedent of the Board.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. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KIRK A. CRONIN, ROBERT D. CROW
and WILLIAM A. EVANKO

Appeal No. 95-2742
Application 08/006,411¹

On BRIEF

Before WINTERS, WEIFFENBACH and WARREN, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

Decision on Appeal

This is an appeal under 35 U.S.C. ' 134 from the decision of
the examiner finally rejecting claims 1 through 11. Claims 1 and
9² are illustrative of the claims on appeal:

¹ Application for patent filed January 21, 1993.

² Appellants state in their brief (page 3) that "[n]o grouping
of the claims is necessary" and argues the claims as grouped in

1. A process for treating contaminated aqueous hydrochloric acid to remove silicon-containing materials, the process comprising

(I) contacting said hydrochloric acid with activated carbon for a time sufficient to allow any silicon-containing materials contained in said hydrochloric acid to adsorb on the activated carbon thereby treating said hydrochloric acid and the activated carbon having adsorbed silicon-containing materials thereon; and

(II) separating the treated aqueous hydrochloric acid from the activated carbon.

9. Hydrochloric acid when treated by the process of claim 1.

The appealed claims as represented by claim 1 are drawn to processes of treating aqueous hydrochloric acid which has been contaminated with silicon-containing materials with activated carbon and separating the treated hydrochloric acid from the activated carbon. We note that appealed claims 3 through 8 further include the steps of refurbishing the activated carbon while appealed claims 9 through 11 are drawn to hydrochloric acid produced by the claimed processes.

The references relied on by the examiner are:

Benzaria et al. (Benzaria)	3,720,626	Mar. 13, 1973
Vanlautem	5,202,106	Apr. 13, 1993
Blyum et al. (Blyum) ³ (Soviet Union)	1,183,454	Aug. 22, 1983

The examiner has rejected appealed claims 1 through 11 under 35 U.S.C. ' 112, second paragraph; appealed claims 1 and 2 under 35 U.S.C. ' 103 as being unpatentable over Blyum or Vanlautem, either one in view of the admitted stated of the art on page 1, et seq. of appellants' specification; and appealed claims 3 through 11 under 35 U.S.C. ' 103 as being unpatentable over Blyum or Vanlautem, either one in view of the admitted stated of the art on page 1, et seq. of appellants' specification, as applied to appealed claims 1 and 2, further in view of Benzaria. We affirm the decision of the

the grounds of rejection (brief, page 3).

³ We have considered a translation of Blyum prepared for the PTO by Diplomatic Language Services, Inc., July, 1994, and attach a copy thereof to our decision.

examiner only to the extent of the rejection of appealed claims 9 through 11 in the last stated rejection under 35 U.S.C. ' 103.

Rather than reiterate the respective positions advanced by the examiner and appellants, we refer to the examiner's answer and to appellants' brief for a complete exposition thereof.

Opinion

We reverse the examiner's rejection of appealed claims 1 through 11 under 35 U.S.C. ' 112, second paragraph, since it is clear to us that claims 1, 3 and 6 comply with the requirements of this section of the statute. Indeed, in appealed claim 1, the language "thereby treating said hydrochloric acid and the activated carbon having adsorbed silicon-containing materials thereon" merely summarizes that in process step "(I)" (1) the hydrochloric acid has been treated, and (2) the silicon-containing materials have been adsorbed onto the activated carbon. With respect to appealed claims 3 and 6, the language "any silicon-containing materials contained in said hydrochloric acid to *adsorb on the activated carbon* thereby ... the *activated carbon having adsorbed silicon-containing materials*" of process step "(I)" of appealed claim 1 (emphasis added) expressly indicates *how* the activated carbon *contains* the silicon-containing material, thus providing antecedent basis for the language "the activated carbon containing silicon-containing materials" in appealed claims 3 and 6.

We further reverse the grounds of rejection under 35 U.S.C. ' 103 of appealed claims 1 and 2 and of appealed claims 3 through 8. As a matter of claim construction, it is apparent to us that

in the present case the purpose of the claimed processes is the removal of silicon-containing materials which contaminate aqueous hydrochloric acid as recited in the preamble of appealed claim 1, which purpose when considered with process step "(I)" of that claim limits the claimed processes to the treatment of hydrochloric acid contaminated with silicon-containing material. See, e.g., *In re Stencel*, 828 F.3d 751, 754, 4 USPQ2d 1071, 1073 (Fed. Cir. 1987). Thus, it is clear that the claimed processes as a whole differ from the references and admitted prior art as applied by the examiner in that this prior art, as admitted by the examiner (answer, pages 6 and 12), fails to disclose any teaching that silicon-containing materials are present in and/or adsorbed on activated carbon in the processes of the applied references. Even so, the examiner alleges that since activated carbon is used to decontaminate aqueous hydrochloric acid containing organic materials (see, e.g., Vanlautem, col. 3), it would have been obvious to use activated carbon to decontaminate "[hydrochloric acid] by-products of the hydrolysis of basic chlorosilanes" which is contaminated by organic materials in addition to silicon-containing materials, since such a process "would inherently remove the silicon-containing materials in the [hydrochloric acid] by-products" (answer, page 6).

The examiner must establish that one of ordinary skill in the art would have recognized that silicon-containing materials would inherently be removed by adsorption on activated carbon by a showing of fact or scientific reasoning in order to make out a *prima facie* case of obviousness on this basis. See generally *In*

re Napier, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784-85 (Fed. Cir. 1995); *In re Shetty*, 566 F.2d 81, 86, 195 USPQ 753, 756-57 (CCPA 1977); *Ex parte Levy*, 17 USPQ2d 1461, 1462-64 (Bd. Pat. App. & Int. 1990), and cases cited therein. As we noted above, the examiner has admitted that the applied prior art does not disclose any teaching that silicon-containing materials are present in and/or adsorbed on activated carbon in the processes of the applied references. We also do not find in the record before us any *reasonable* scientific explanation why one of ordinary skill in this art would have known or would have reasonably expected that silicon-containing materials can be adsorbed onto activated carbon *per se* or any evidence that silicon-containing materials are a routine contaminant of hydrochloric acid containing process streams. Indeed, the examiner has further admitted that no similarity between hydrocarbons and silicon-containing materials with respect to adsorption on activated carbon was assumed in making the rejection (answer, page 13, lines 11-12). Thus, by the examiner's own admissions, inherency has not been established in this case and, accordingly, the examiner has not carried his burden of making out a *prima facie* case of obviousness of the claimed invention of appealed claims 1 through 8 as a whole. Indeed, the question of why one of ordinary skill in this art would have used activated carbon to clean up a silicon-containing materials contaminated process stream, of hydrochloric acid or otherwise, regardless of other contaminants present, has neither been asked nor answered.

The rejection of appealed claims 9 through 11 under 35 U.S.C. ' 103 stands on a different factual foundation. It reasonably appears to us from consideration of the disclosures of Blyum and Vanlautem that the aqueous hydrochloric acid recovered in the Examples thereof is the same as or substantially the same as the hydrochloric acid defined by appealed claims 9 through 11. Thus, the burden falls upon appellants to establish by objective evidence that the claimed invention patentably distinguishes over these references, whether the rejection is considered to be based on 35 U.S.C. ' 102 or 35 U.S.C. ' 103. *In re Spada*, 911 F.2d 705, 708-09, 15 USPQ2d 1655, 1657-58 (Fed. Cir. 1990); *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985); *In re Best*, 562 F.2d 1252, 1255-56, 195 USPQ 430, 433-34 (CCPA 1977); *In re Wertheim*, 541 F.2d 257, 271, 191 USPQ 90, 103-04 (CCPA 1976); *In re Brown*, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972). Furthermore, while the issue here has been framed by the examiner as one of obviousness under 35 U.S.C. ' 103, it is clear to us that if the hydrochloric acid is in fact the same as that defined by appealed claims 9 through 11, this is indeed evidence of a lack of novelty of the claimed invention which is, of course, "the ultimate of obviousness." *In re Fracalossi*, 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982); *Wertheim*, 541 F.2d at 271, 191 USPQ at 103-04. Thus, to the extent that these references anticipate the claimed hydrochloric acid, the case of obviousness is irrebuttable. *Fracalossi*, supra.

Accordingly, since the examiner has established a *prima facie* case of obviousness as to appealed claims 9 through 11, the burden of going forward has shifted to appellants to submit argument or evidence in rebuttal. In view of the argument in rebuttal presented in appellants' brief, the patentability of the claimed invention as a whole must again be assessed based on the record as a whole, including all the evidence of obviousness and of nonobviousness, giving due consideration to the weight of appellants' arguments. See generally *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992), *In re Johnson*, 747 F.2d 1456, 1460, 223 USPQ 1260, 1263 (Fed. Cir. 1984), *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984), and *In re Rinehart*, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

We have carefully considered all of appellants' arguments and the evidence presented in the specification. While we agree with appellants that the claimed processes of appealed claims 1 through 8 are patentable over the prior art as applied by the examiner for the reasons we have set forth above, those reasons do not extend to the decontaminated hydrochloric acid products encompassed by appealed claims 9 through 11. It is well settled by the authority we have cited above that the patentability of claimed products is determined based upon the products *per se* and not upon the process limitations by which the claimed products are defined. Indeed, this principle of patent law is axiomatic even where process limitations in a *product-by-process* claim have been presented as a *process* claim which has been held to be

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patentable over the same prior art applied to said product-by process claim. *See, e.g., Wertheim*, 541 F.2d at 271, 191 USPQ at 103-04.

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in Blyum and Vanlautem with appellants' countervailing evidence of and argument for nonobviousness and conclude that by a preponderance of the evidence the claimed invention encompassed by appealed claims 9 through 11 as a whole would have been obvious as a matter of law under 35 U.S.C. § 103.

The examiner's decision is affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR 1.136(a).

Affirmed-in-Part

SHERMAN D. WINTERS)	
Administrative Patent Judge)	
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CAMERON WEIFFENBACH)	BOARD OF PATENT
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