

The opinion in support of the decision being entered today  
is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte HUNG VAN NGUYEN, DONALD B. BURSILL, JAMES Y. MORRAN,  
MARY DRIKAS and VERONICA L. PEARCE

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Appeal No. 2006-2023 <sup>1</sup>  
Application No. 10/650,785 <sup>2</sup>

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ON BRIEF

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Before: HANLON, DELMENDO and LANE, Administrative Patent Judges.

LANE, Administrative Patent Judge.

**DECISION ON APPEAL**

**I. Introduction**

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of all pending claims in application 10/650,785 ("the '785 application"), i.e., claims 1-26. We *affirm*. However, because our reasoning differs from that of the examiner, we designate our affirmance as a new ground of rejection pursuant to 37 C.F.R. § 41.50(b) to ensure the appellants' procedural safeguards.

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<sup>1</sup> The application on appeal was received at the Board on 30 March 2006.

<sup>2</sup> The application on appeal was filed on 29 August 2003. The real parties-in-interest are Orica Australia and South Australian Water Corporation.

We make reference to appellants' Appeal Brief ("Brief," filed 23 May 2005) and Reply Brief ("Reply," filed 28 December 2005) and to the examiner's Answer ("Answer," mailed 28 October 2005).

Appellants have grouped the claims on appeal into 2 groups:

- I. Claims 1-16
- II. Claims 17-26.

(Brief, p. 6).

Therefore, we decide this appeal on the basis of claims 1 and 17. 37 C.F.R. § 41.37(c)(1)(vii).

Claim 1 reads (emphasis added):

1. A method for treating drinking water comprising:
  - a) providing raw water to a process tank;
  - b) adding an ion-exchange resin to the process tank to form a water/ion-exchange resin mixture;
  - c) **removing treated water from the process tank through the membrane filter;** and
  - d) regenerating the ion-exchange resin.

Claim 17 reads (emphasis added):

17. An apparatus for treating drinking water comprising:
  - a process tank for receiving water;
  - an ion-exchange resin supply **operatively associated** with the process tank to provide ion-exchange resin to water within the process tank;
  - a membrane filter operatively associated with the process tank for separating particulate matter from treated water removed from the process tank through the membrane filter;** and
  - a supply of regeneration solution for regeneration of the ion-exchange resin.

## II. Findings of Fact

The following findings of fact are supported by a preponderance of the evidence.

1. The '785 application was filed on 29 August 2003 as a continuation of U.S. application 08/809,044 ("the '044 application"), filed on 30 May 1997.
2. The '044 application is the national phase of International Application AU 199534657, filed 8 September 1995, under 35 U.S.C § 371.
3. The '785 application was filed as a continuation of the '044 application and appears to have a disclosure that is similar but not identical to that of the '044 application.
4. The '785 application contains claims directed to a method for treating drinking water and to an apparatus therefor.
5. The examiner objected to the disclosure of the '785 application as improperly referring to the '785 application as a "continuation" of the '044 application (Office action, p. 2 (mailed 24 August 2004)).
6. According to the examiner, "[t]he limitation that treated water is removed from the process tank 'through a membrane filter' (see claims 1 and 11, step c; and claim 17, lines 6-7) does not appear to be supported by the disclosure" of the '044 application (Office action, p. 2 (mailed 24 August 2004)).
7. Appellants amended the '785 specification to provide antecedent basis for the limitation at issue by adding the words of claims 1 and 17 verbatim (Supplemental amendment, pp. 2-3 (filed 2 May 2005)).
8. The amendment was entered (Advisory action, p. 1 (mailed 26 May 2005)).
9. According to the examiner, since the limitation of "removing treated water from the process tank through the membrane filter" was not supported by the original

disclosure of the '044 application, the '785 application is a continuation-in-part of the '044 application (Office action, p. 2 (mailed 24 August 2004)).

10. The examiner determined that claims 1-26 of the '785 application had an effective filing date of 29 August 2003 (Office action, p. 3 (mailed 24 August 2004)).
11. Patent application publication No. 2002/0121479 ("Mueller") was published on 5 September 2002.
12. Therefore, according to the examiner, Mueller qualifies as prior art under 35 U.S.C. § 102(a) (Office action, p. 3 (mailed 24 August 2004)).
13. The examiner rejected claims 1-26 as being clearly anticipated by Mueller (Office action, p. 3 (mailed 24 August 2004)).
14. Appellants did not contest the examiner's contention that claims 1-26 are clearly anticipated by Mueller, but rather argued that Mueller is not available as prior art (Response to Office action, p. 7 (filed 21 January 2005)).
15. The '044 specification describes filtering water through "a membrane system" (p. 2, lines 8-9), a "continuous fully suspended system," wherein the resin may conveniently be separated from the treated water by gravity settling (p. 3, lines 30-31), and a "recycle system," wherein settled resin is mixed in hoppers to keep it in a fluid condition and to ensure uniform concentration (p. 4, lines 10-12).
16. Specifically, the '044 application describes a process for removal of dissolved organic carbon from water including the steps of: (a) adding an ion-exchange resin to water containing dissolved organic carbon; (b)

*dispersing* the resin in the water to enable adsorption of the dissolved organic carbon onto the resin; and (c) separating the resin loaded with the dissolved organic carbon from the water. (Page 2, line 25 to page 3, line 1.)

17. The '044 disclosure states that "[t]he ion-exchange resin is dispersed in the water so as to provide the maximum surface area of resin to adsorb the DOC [dissolved organic carbon]." (Page 3, lines 3-5.)
18. The '044 disclosure further enlightens one skilled in the relevant art that the separating step may be achieved by settling, screening, or a combination thereof. (Page 3, lines 16-17.)
19. The '044 disclosure describes regeneration of "spent" ion-exchange resin. (Page 7, lines 4-11.)
20. The '044 disclosure reads at page 12, line 30 through page 13, line 13 as follows (emphasis added):

[i]n a further aspect the invention provides a process for the treatment of water which includes the following steps:

  - a. adding an ion-exchange resin to water containing dissolved organic carbon;
  - b. dispersing said resin in the water to enable adsorption of the dissolved organic carbon onto the ion-exchange resin;
  - c. separating the ion-exchange resin loaded with dissolved organic carbon from the water; and
  - d. subjecting the water to membrane filtration.

**In an alternative process, steps c. & d. above may be combined so that the membrane effects separation of the resin while simultaneously filtering the water.**
21. Based on this description in the '044 application, the appellants argue that claims 1-26 are entitled to the 8 September 1995 earlier filing date of the '044

application and thus Mueller is not available as prior art under 35 U.S.C. § 102(a).

22. Other findings of fact follow below.

### **III. Discussion**

#### **A. The issue**

The dispositive question is whether the examiner was correct in determining that Mueller qualifies as prior art. In order to resolve this question, we must first determine if the examiner was correct in evaluating the effective filing dates of each of claims 1-26.

Applicants are entitled to claim benefit of the filing date of an earlier application for a later claimed invention under 35 U.S.C. § 120 if the earlier application discloses the later claimed invention in the manner required by 35 U.S.C. § 112, first paragraph. *In re Chu*, 66 F.3d 292, 272, 36 USPQ2d 1089, 1093 (Fed. Cir. 1995).

To satisfy the written description requirement under 35 U.S.C. § 112, first paragraph, the disclosure of the application relied upon must have reasonably conveyed to the skilled artisan that the inventor had possession at that time of the later claimed subject matter. *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983).

#### **B. The examiner's position**

The examiner argues that in construing the limitation of "removing treated water from the process tank 'through a membrane filter'" in the broadest reasonable manner not inconsistent with the specification, the limitation at issue encompasses two possible embodiments of the invention. In the first embodiment, a single membrane filter serves

the dual purposes of both separating resin and simultaneously filtering water. In the second embodiment, a first membrane filter removes treated water from the process tank, while a second membrane filter, located downstream from the process tank, separates the resin from the treated water. According to the examiner, since the disclosure of the '044 application does not provide support for the first embodiment, "the concept of removing water from a process tank through a membrane filter is not described in prior application Serial No. 08/809,044 (now U.S. Patent No. 6,669,849) so as to satisfy the description requirement of 35 U.S.C. § 112, first paragraph" (Answer, p. 5, ¶ 2).

The examiner states that "one of ordinary skill in the...art, upon viewing the disclosure of utilizing a membrane to effect separation of resin while simultaneously filtering water... would not have been guided to the concept of removing water from a process tank through a [single] membrane filter" (Answer, p. 5, ¶ 1). In support of his position, the examiner states that "a cursory review of the references of record (e.g. Collier, U.S. Patent No. 2,697,724; Jowett et al., U.S. Patent No. 4,154,675; and Anselme et al., U.S. Patent No. 5,364, 534) [shows that] ion exchange resins are typically removed from the treated liquid by a separator located **downstream** from the treatment tank, not at or within the treatment tank" (original emphasis) (Answer, p. 4, ¶ 1). Thus, the examiner argues that claims 1-26 are not entitled to the 8 September 1995 filing date of the '044 application.

### **C. Appellants' position**

Appellants argue that claims 1-26 are fully supported by the '044 specification, at page 12, line 30 through page 13, line 13, and therefore, Mueller, which has a

publication date of 5 September 2002, is not available as prior art. Appellants point out that “[t]he specification does not teach that the simultaneous separation and membrane filtration occurs anywhere else **other** than at or in the process tank. Specifically, it does not teach that the mixed water and resin are taken from the process tank together and then separated from each other through a membrane filter downstream from the process tank” (original emphasis) (Reply, p. 3, ¶ 1). Furthermore, in response to the examiner’s use of the Collier, Jowett and Anselme patents to construe the limitation at issue, appellants argue that it is not logical to rely upon the teachings of other patents rather than upon appellants’ own specification. Instead, “[t]he critical language in Appellants’ specification must be interpreted in the context of **Appellants’** specification, not some other patent specification describing some other process,” particularly when “the disputed teachings are **novel** as in the case herein” (original emphasis) (Reply, p. 4, ¶ 3). Therefore, according to appellants, claims 1-26 are entitled to the 8 September 1995 filing date of the ‘044 application.

#### **D. Analysis**

##### **1. Group I (Claims 1-16)**

Claim 1 is representative of Group I. It reads as follows:

1. A method for treating drinking water comprising:
  - a) providing raw water to a process tank;
  - b) adding an ion-exchange resin to the process tank to form a water/ion-exchange resin mixture;
  - c) removing treated water from the process tank through the membrane filter; and
  - d) regenerating the ion-exchange resin.

The appellant has directed us to page 12, line 30 through page 13, line 13 of the specification where the '044 specification states (bracketed text added)

(emphasis added):

an alternative process, [wherein] steps c. [(separating the ion-exchange resins loaded with the dissolved organic carbon from the water)] and d. [(subjecting the water to membrane filtration)] may be combined so that **the** membrane effects separation of the resin while **simultaneously** filtering the water.

In other words, the '044 specification describes the same membrane as simultaneously both separating the resin and filtering the treated water. The examiner has not explained why this description would not have reasonably conveyed to one of ordinary skill a method step of "removing treated water through the membrane filter." *In re Alton*, 76 F.3d 1168, 1175, 37 USPQ2d 1578, 1583-84 (Fed. Cir. 1996) ("If... the specification contains a description of the claimed invention... then the examiner... in order to meet the burden of proof, must provide reasons why one of ordinary skill in the art would not consider the description sufficient").

Nonetheless, we concur with the examiner that the subject matter of appealed claim 1 is not entitled to the filing date of the earlier '044 application because the '044 disclosure does not reasonably convey to one skilled in the relevant art that the appellants had possession of the full scope of the now claimed subject matter, which was added after the filing of the application during prosecution. It is well settled that the United States Patent and Trademark Office (PTO) is obligated to give disputed claim terms their broadest reasonable interpretation, taking into account any enlightenment by way of definitions or otherwise found in the specification. *In re Bigio*, 381 F.3d 1320, 1324, 72 USPQ2d 1209, 1211 (Fed. Cir. 2004)("[T]he PTO gives a disputed claim term

its broadest reasonable interpretation during patent prosecution.”). While claims are read in light of the specification, it is inappropriate to read in limitations to a claim without proper basis therefor. *In re Bigio*, 381 F.3d at 1325, 72 USPQ2d at 1211 (“[T]his court counsels the PTO to avoid the temptation to limit broad claim terms solely on the basis of specification passages.”)

As noted earlier, the appealed claims were added during prosecution and are not original claims. Giving the terms of appealed claim 1 their broadest reasonable interpretation consistent with the accompanying specification, we determine that the claimed subject matter encompasses a method including the step of simply adding an ion-exchange resin to the process tank without any dispersion of the resin in the water. For example, the recitation “adding an ion-exchange resin to the process tank to form a water-ion-exchange resin mixture” reads on adding a packed deionizing resin cartridge into a filter housing, which forms a water-ion exchange resin mixture. By contrast, the ‘044 disclosure (including the original claims), when read as a whole, makes it clear to one skilled in the relevant art that “[t]he ion-exchange resin is *dispersed* in the water so as to provide the maximum surface area of resin to absorb the DOC.” (Page 3, lines 4-5.) Indeed, the ‘044 specification, when read as a whole, unequivocally informs one skilled in the relevant art that dispersion of the resin is an indispensable feature of the ‘044 invention. (See, e.g., page 2, lines 18-20; page 23, line 28; page 27, line 18; page 28, line 19; page 31, line 7; page 34, line 7; page 37, line 7; page 40, line 7; page 45, lines 7 and 19; page 47, line 7; page 48, lines 2-3; page 49, line 2.) Nowhere in the ‘044 specification is there any indication that the invention encompasses a method in a dispersing step is not used.

Under these circumstances, we hold that the '044 disclosure does not satisfy the written description requirement of 35 U.S.C. § 112, ¶1, with respect to the subject matter of appealed claim 1, which broadly encompasses a method that does not involve dispersion of the resin in water. *LizardTech Inc. v. Earth Resource Mapping, Inc.*, 424 F.3d 1336, 1343-44, 76 USPQ2d 1724, 1731 (Fed. Cir. 2005)(“While it is true that not every advantage of the invention must appear in every claim...it would be peculiar for the claims to cover prior art that suffers from precisely the same problems that the specification focuses on solving.”); *Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473, 1479, 45 USPQ2d 1498, 1502-03 (Fed. Cir. 1998)(holding that patent claims directed to a sectional sofa were invalid as lacking written description under 35 U.S.C. § 112, ¶1, because they did not limit the location of the reclining controls to the console area in direct conflict with the original disclosure, which identified the console area as the only possible location of the controls); *Tronzo v. Biomet, Inc.*, 156 F.3d 1154, 1159, 47 USPQ2d 1829, 1833 (Fed. Cir. 1998)(“[T]he only reference in the '589 patent's specification to different shapes [for a cup in a prosthesis] is a recitation of the prior art...Instead of suggesting that the '589 patent encompasses additional shapes, the specification specifically distinguishes the prior art as inferior and touts the advantages of the conical shape of the '589 cup.”).

The appellants' reliance on the description at pages 12-13 of the '044 application is misplaced. Even that description makes it clear to one skilled in the relevant art that step b (the dispersing step) is indispensable to the invention. (Page 13, lines 3-4.) The invention recited in appealed claim 1, which is significantly broader in scope, is therefore directed to a different invention.

Because the '044 application does not contain adequate written description for the entire scope of appealed claim 1 within the meaning of 35 U.S.C. § 112, ¶1, appealed claim 1 is not entitled to the earlier filing date of the '044 application. Mueller is therefore available as prior art.

The next question is whether Mueller anticipates the subject matter of the appealed claims. As noted earlier, the appellants do not dispute the examiner's factual findings that Mueller describes each and every limitation of the appealed claims. Accordingly, we uphold the examiner's rejection as to claims 1-16.

## **2. Group II (Claims 17-26)**

Claim 17, which is representative of Group II, recites:

17. An apparatus for treating drinking water comprising:
  - a process tank for receiving water;
  - an ion-exchange resin supply operatively associated with the process tank to provide ion-exchange resin to water within the process tank;
  - a membrane filter operatively associated with the process tank for separating particulate matter from treated water removed from the process tank through the membrane filter; and
  - a supply of regeneration solution for regeneration of the ion-exchange resin.

As discussed above with respect to appealed claim 1, the entire disclosure of the '044 application is directed to a treatment apparatus that is capable of dispersing the ion-exchange resin. Claim 17, which was added after the filing of the application on appeal, does not recite any limitation that renders the apparatus capable of dispersing the ion-exchange resin. Thus, the '044 application does not contain adequate written description for the invention as now broadly recited in appealed claim 17. *Cooper Cameron Corp. v. Kvaerner Oilfield Products, Inc.*, 291 F.3d 1317, 1323, 62 USPQ2d 1846, 1851 (Fed. Cir. 2002)("[I]n Gentry, we applied and merely expounded upon the

unremarkable proposition that a broad claim is invalid when the entirety of the specification clearly indicates that the invention is of a much narrower scope.”).

Because appealed claim 17 is not entitled to the earlier filing date of the ‘044 application, thus making Mueller 35 U.S.C. § 102(a) prior art, and the appellants do not dispute the examiner’s factual findings that Mueller anticipates claims 17-26, we must also affirm the rejection of these claims.

#### **IV. Conclusion**

The decision of the examiner to reject claims 1-26 under 35 U.S.C. § 102(a) as anticipated by Mueller is **affirmed**. However, since our reasoning differs from that of the examiner, we designate our affirmance as a new ground of rejection pursuant to 37 C.F.R. § 41.50(b).

This decision contains a new ground of rejection pursuant to 37 CFR § 41.50(b). 37 CFR § 41.50(b) provides that “[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review.”

37 CFR § 41.50(b) also provides that the appellants, 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 the appeal as to the rejected claims:

(1) Reopen prosecution. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner...

(2) Request rehearing. Request that the proceeding be reheard under § 41.52 by the Board upon the same record...

Should the appellants elect to prosecute further before the examiner pursuant to 37 CFR § 41.50(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejections, the effective date of the affirmance is deferred until conclusion of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejections are overcome.

If the appellants elect prosecution before the examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejections, including any timely request for rehearing thereof.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv).

In addition, the examiner is reminded that appellants have requested an interference in this application. The examiner is referred to Chapter 2300 of the Manual of Patent Examining Procedures (MPEP), 8<sup>th</sup> ed., rev. 5 (August 2006).

AFFIRMED - 37 CFR § 41.50(b)

<u>/Adriene Lepiane Hanlon/</u>	)	
ADRIENE LEPIANE HANLON	)	
Administrative Patent Judge	)	
	)	BOARD OF PATENT
<u>/Romulo H. Delmendo/</u>	)	APPEALS AND
ROMULO H. DELMENDO	)	INTERFERENCES
Administrative Patent Judge	)	
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