

United States Court of Appeals for the Federal Circuit

2006-1266, -1267

ZENON ENVIRONMENTAL, INC.,

Plaintiff-Cross Appellant,

v.

UNITED STATES FILTER CORPORATION
(now known as Water Applications & Systems Corporation),

Defendant-Appellant.

John Allcock, DLA Piper US LLP, of San Diego, California, argued for plaintiff-cross appellant. With him on the brief were John D. Kinton, Stanley J. Panikowski, and Kathryn B. Riley.

Mark D. Selwyn, Wilmer Cutler Pickering Hale and Dorr LLP, of Boston, Massachusetts, argued for defendant-appellant. With him on the brief were William F. Lee, Michael A. Diener, Michael J. Summersgill, Patrick M. Callahan, and Lauren B. Fletcher.

Appealed from: United States District Court for the Southern District of California

Senior Judge Rudi M. Brewster

United States Court of Appeals for the Federal Circuit

2006-1266, -1267

ZENON ENVIRONMENTAL, INC.,

Plaintiff-Cross Appellant,

v.

UNITED STATES FILTER CORPORATION
(now known as Water Applications & Systems Corporation),

Defendant-Appellant.

DECIDED: November 7, 2007

Before NEWMAN, LOURIE, and LINN, Circuit Judges.

Opinion for the court filed by Circuit Judge LOURIE. Dissenting opinion filed by Circuit Judge NEWMAN.

LOURIE, Circuit Judge.

United States Filter Corp. (“US Filter”) appeals from the final judgment of the United States District Court for the Southern District of California, following a bench trial, that the asserted claims of U.S. Patent 6,620,319 (“the ’319 patent”) are not invalid as anticipated under 35 U.S.C. § 102. Zenon Environmental, Inc. (“Zenon”) cross-appeals the district court’s grant of summary judgment that the accused products do not infringe the ’319 patent. Because we conclude that the district court erred in determining that the ’319 patent was entitled to the priority date of an earlier filed patent, and thus clearly erred in concluding that the ’319 patent was not anticipated by that patent, we reverse

the court's judgment of no invalidity and hold that patent to be invalid. In light of that conclusion, we need not reach Zenon's cross-appeal seeking reversal of the district court's grant of summary judgment of noninfringement.

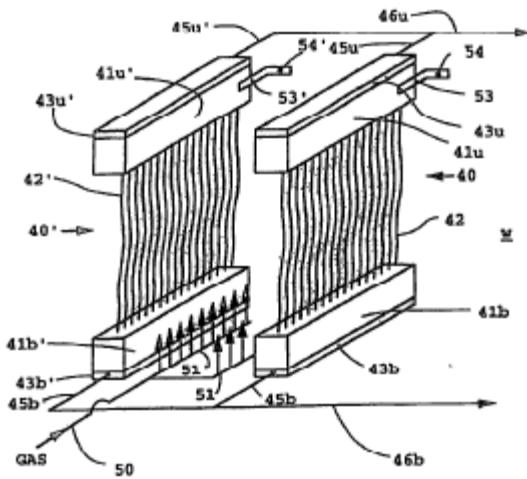
BACKGROUND

Zenon owns the '319 patent entitled "Apparatus for Withdrawing Permeate Using An Immersed Vertical Skein of Hollow [Fiber] Membranes." The patent relates to the field of water treatment and filtration systems and is directed to "relatively large systems for the microfiltration of liquids." '319 patent col.2 ll.47-48. The patent discloses the use of a vertical skein, which the patent describes as "an integrated combination of structural elements including (i) a multiplicity of vertical fibers of substantially equal length; (ii) a pair of headers in each of which are potted the opposed terminal portions of the fibers so as to leave their ends open; and, (iii) permeate collection means held peripherally in fluid-tight engagement with each header so as to collect permeate from the ends of the fibers." Id. at col.1 ll.31-38 (emphases added).

As disclosed in the patent, a skein of hollow fiber membranes is submerged within the substrate, i.e., the liquid feed containing the unwanted particulate matter. The fibers filter the substrate using a process called an outside-in flow. Id. at col.4 ll.30-33. During that process, "[t]he feed of substrate is introduced externally of the fibers," which are made of porous or semipermeable materials, and is "resolved into 'permeate' and 'concentrate' streams." Id. A permeate collection means is used to collect permeate from the ends of the fibers. The '319 patent describes the importance of keeping the surface of the fibers free of particulate matter, which generally includes micron-sized and submicron-sized organic or inorganic matter, id. at col.1 ll.46-53, in order to ensure

the free flow of permeate over an extended period of time, thereby reducing the frequency with which the fibers must be cleaned. Id. at col.5 II.46-56.

In order to achieve that objective, the patent discloses using “a cleansing gas, typically air, discharged near the base of a skein to produce bubbles in a specified size range, and in an amount large enough to scrub the fibers, and to cause the fibers to scrub themselves against one another.” Id. at col.2 II.51-55. It is the “scrubbing force exerted by the bubbles on the fibers, [that] keeps their surfaces sufficiently free of attached microorganisms and deposits of inanimate particles to provide a relatively high and stable flow of permeate over many weeks, if not months of operation.” Id. at col.5 II.49-53. Thus, the '319 patent discloses that “the most preferred use of the skein as a membrane device is in a bank, in combination with a gas-distribution means, which is typically used to distribute air, or oxygen-enriched air between the fibers, from within the skein, or between adjacent skeins, at the bases thereof.” Id. at col.7 II.21-25. An illustration of a pair of skeins in combination with a gas-distribution means is shown in Figure 10 of the '319 patent:



The pair of skeins 40 and 40' consists of upper and lower headers, 41u and 41u' and 41b and 41b', respectively, vertical fibers 42 and 42', and permeate collection means 46u and 46b. The skeins share a common gas-distribution means 50, which is preferably split into two arms 51 and 51'. Id. at col.25 ll.8-9.

Claims 7-12 are the asserted claims of the '319 patent. Claim 7, the only independent asserted claim, reads as follows:

7. An apparatus for treating a multicomponent liquid substrate while leaving particulate matter therein, comprising,

- (a) a non-pressurized reservoir for containing the substrate;
- (b) a plurality of hollow fiber filtering membranes immersed in the substrate wherein the membranes are disposed generally vertically between upper and lower headers such that (i) outsides of ends of the membranes are sealingly secured to the headers in a closely spaced apart relationship, (ii) lumens of the membranes are in fluid communication with at least one permeate collection means, and, (iii) said membranes having a length between opposed surfaces of the headers such that the membranes may move against each other but wherein the length is less [than] 5% greater than the distance between opposed surfaces of the headers;
- (c) a pump in fluid communication with said lumens of said membranes, said pump operable to apply a suction to the lumens of the membranes to draw a component of the substrate as permeate through said membranes; and,
- (d) a gas distribution system having through-passages through the lower header to discharge bubbles into the substrate above the lower header.

'319 patent claim 7 (emphasis added). Thus, a particular type of gas-distribution means, viz., one that requires through-passages through the lower header to discharge bubbles into the substrate above the lower header, is present in all of the asserted claims. Figure 6 of the '319 patent depicts an example of that type of gas distribution means:

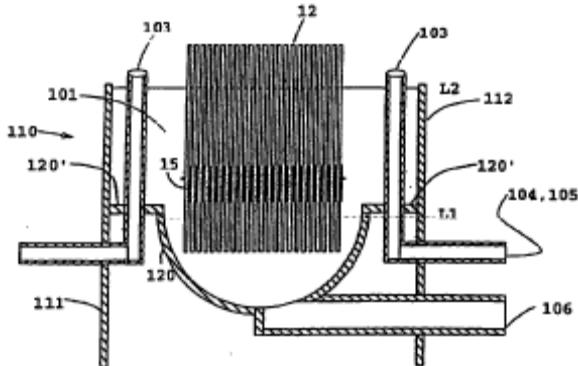


FIG. 6

Figure 6 depicts a single skein 110, in which air tubes 103 traverse the integral header 101 with a thickness L1-L2. '319 patent col.19 l.62-col.20 l.22. As seen from the illustration, air passes through the air tubes and escapes above the top surface of the header L2. The fibers 12 are secured in the header and are positioned above a permeate pan 120, which is used to collect permeate from the fibers.

The '319 patent is the sixth patent to issue from a series of connected applications that were filed by the same assignee. As set forth in column one of the '319 patent, that patent is a:

continuation of Ser. No. 09/507,438, filed Feb. 19, 2000 issued as U.S. Pat. No. 6,294,039 ["the '039 patent"]; which is a division of Ser. No. 09/258,999, filed Feb. 26, 1999, issued as U.S. Pat. No. 6,042,677 ["the '677 patent"]; which is a division of Ser. No. 08/896,517, filed Jun. 16, 1997, issued as U.S. Pat. No. 5,910,250 ["the '250 patent"]; which is a continuation-in-part application of Ser. No. 08/690,045, filed Jul. 31, 1996, issued as U.S. Pat. No. 5,783,083 ["the '083 patent"] which is a non-provisional of provisional application Ser. No. 60/012,921 filed Mar. 5, 1996 and a continuation-in-part of Ser. No. 08/514,119, filed Aug. 11, 1995, issued as U.S. Pat. No. 5,639,373 ["the '373 patent"].

'319 patent col.1 II.8-18 (emphases added). Zenon asserts that the '319 patent is entitled to the priority date of the '373 patent under 35 U.S.C. § 120.¹

Relevant to this appeal are the disclosures of the intervening patents.² The '250 patent, entitled "Baffle for Conversion of Fine Bubbles to Coarse While Filtering with a Vertical Skein of Hollow Fibers," is directed to a filtration device "provided for withdrawing permeate essentially continuously from a multicomponent aqueous substrate containing growing microorganisms in a reservoir." '250 patent Abstract. The '250 patent teaches "the utilization of bubbles of air in two size ranges, one fine, the other coarse (defined below), to accomplish different functions in the operation of a vertical skein of hollow fiber membranes for filtration of an aqueous medium from a biomass." Id. at col.1 II.12-16. The inventors discovered that very small or fine bubbles were an efficient and economical means of providing "an oxygen-containing gas (typically air, or air enriched with oxygen, occasionally pure oxygen) required for growth of microorganisms in the aqueous substrate," id. at col.2 II.3-11, in contrast to coarse bubbles, which are useful for maintaining "clean fiber surfaces during microfiltration (MF) or ultrafiltration (UF) with a skein." Id. at col.2 II.1-3.

In the Summary of Invention section of the '250 patent specification, the patentees stated that:

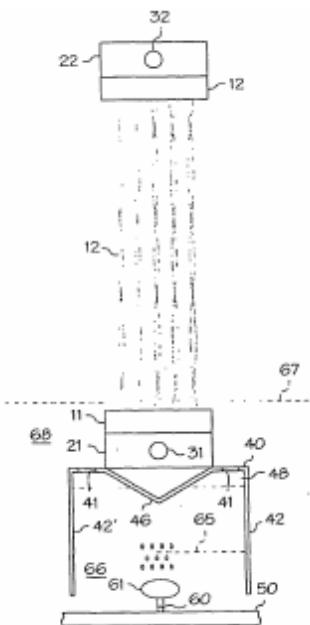
¹ For purposes of the validity issue presented in this appeal, the parties agree that the disclosures of the '373 patent and the '083 patent are indistinguishable. For ease of reference, those patents will collectively be referred to as "the grandparent patents" and our discussion of the grandparent patents will be limited to the '373 patent.

² The parties further agree that, for purposes of this appeal, the disclosures of the '250, '677, and '039 patents are likewise indistinguishable. Those patents will collectively be referred to as "the intervening patents." For ease of reference, our discussion of the intervening patents will be limited to the '250 patent.

It is . . . a general object of this invention to provide a filtration device for the separation of a liquid from a biomass containing live microorganisms requiring a gas, typically oxygen for growth, the device comprising a vertical skein of fibers resting on a conversion baffle disposed within a biomass contacted with fine bubbles of the gas; the conversion baffle has through-openings which allow gas trapped under the baffle to be discharged as coarse bubbles from a discharging zone near the surface of a gas-distribution supply line.

Id. at col.3 ll.32-42. An example of such a device is depicted in Figure 4 of the '250

patent:



The device contains an air supply pipe 60 that is fitted with fine-bubble generators 61, which produce fine bubbles in the fine-bubble discharging zone 66. Id. at col.1 ll.49-67. As the fine bubbles travel upwards, the bubbles collect in a trapping zone 48—a mass of air directly below the baffle 40 and above the surface of the substrate. The air then travels through the perforations 41 of the baffle 40 and is converted into coarse bubbles in the coarse-bubble discharging zone 68. Id. Thus, the filtration device disclosed in the '250 patent differs from the filtration device described in the '319 patent in that, in addition to the use of a vertical skein, the invention of the '250 patent uses a conversion

baffle, which enables fine bubbles that are necessary for the oxygenation of microorganisms in the substrate to convert into coarse bubbles as they pass through the baffle. Notably, however, the inventors clarified in the '250 patent that:

The vertical skein is not the subject matter of this invention and any prior art vertical skein may be used. Further details relating to the construction and deployment of a most preferred skein are found in the parent U.S. Pat. No. 5,639,373, and in Ser. No. 08/690,045, the relevant disclosures of each of which are included by reference thereto as if fully set forth herein.

Id. at col.2 ll.30-36. Thus, the '250 patent specification purports to incorporate by reference the details relating to the construction and deployment of a vertical skein as disclosed in the grandparent patents.

US Filter is one of Zenon's principal competitors in the water filtration industry. On October 3, 2003, Zenon brought suit against US Filter alleging that it infringed three of its patents, viz., U.S. Patent Nos. 6,245,239 ("the '239 patent"), 6,550,747 ("the '747 patent"), and the '319 patent. In November 2004, following a Markman hearing, the court construed the disputed claim terms. After the court issued its claim construction ruling, Zenon conceded that the accused products did not infringe the asserted claims of the '319 patent. US Filter then moved for summary judgment on the patents in suit, which the court granted in part and denied in part. The court granted summary judgment of noninfringement as to the '747 patent, denied summary judgment of noninfringement and invalidity as to the '239 patent, and denied summary judgment of invalidity as to the '319 patent.

On April 27 and 28, 2005, the court held a bench trial on the validity of the '319 patent. At trial, US Filter argued that the '319 patent was not entitled to claim priority from the '373 patent. In particular, US Filter asserted that the intervening patents failed

to incorporate by reference the gas distribution system disclosed in the '373 patent, and thus broke the chain of priority because the asserted claims in the '319 patent were not supported by each patent in the family chain—a requirement for entitlement to the benefit of the filing date of an earlier patent under 35 U.S.C. § 120. In light of the undisputed fact that the '373 patent contains each and every element of the claimed invention of the '319 patent, US Filter argued that the '373 patent invalidated the '319 patent by reason of anticipation.

On May 5, 2005, the district court rejected US Filter's assertion and concluded that US Filter failed to prove that the '319 patent was invalid by clear and convincing evidence. US Filter subsequently moved for summary judgment of noninfringement of the '319 patent, which the court granted. The parties agreed to dismiss the remaining pending claims without prejudice, and on January 17, 2006, the court entered final judgment on all of the asserted patents.

US Filter timely appealed the court's decision with regard to the validity of the '319 patent. Zenon cross-appealed the court's claim construction ruling and grant of summary judgment of noninfringement. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

DISCUSSION

We review “the judgment of a district court following a bench trial ‘for errors of law and clearly erroneous findings of fact.’” Dow Chem. Co. v. Mee Indus., Inc., 341 F.3d 1370, 1374 (Fed. Cir. 2003) (quoting Allen Eng'g Corp. v. Bartell Indus., Inc., 299 F.3d 1336, 1343-44 (Fed. Cir. 2002)). Anticipation is a question of fact that we review

for clear error. Hoover Group, Inc. v. Custom Metalcraft, Inc., 66 F.3d 299, 302 (Fed. Cir. 1995).

A. Validity of the '319 Patent

On appeal, US Filter argues that the district court erred by applying the wrong legal standard with respect to the question whether the intervening patents incorporated by reference the gas distribution system disclosed in the '373 patent. In particular, US Filter asserts that the district court improperly placed the burden on US Filter to prove that the gas distribution system was not incorporated by reference in the intervening patents, rather than placing the burden on Zenon, the drafter of the intervening patents, to establish the incorporation by reference. US Filter further argues that the intervening patents do not describe the gas distribution system claimed in the '319 patent. Instead, according to US Filter, the intervening patents claim an entirely new and different gas distribution system. Because the gas distribution system present in the asserted claims of the '319 patent is not supported by the intervening patents, US Filter contends that those claims cannot gain the benefit of the '373 priority date. Moreover, US Filter argues that the incorporation by reference language fails to meet the requirements that the language identify with detailed particularity what material is being incorporated and where that material is located in the various documents.

In response, Zenon argues that the '319 patent is presumed valid under 35 U.S.C. § 282, and US Filter failed to satisfy its burden of overcoming that presumption. Zenon further argues that the district court correctly determined that the '319 patent is entitled to the priority date of the '373 patent because a continuity of disclosure was maintained throughout the patent chain. According to Zenon, a person of ordinary skill

in the art would reasonably understand that the gas distribution system disclosed in the '373 patent is a detail that relates to the construction and deployment of a skein, and thus was properly incorporated by reference in the intervening patents. Zenon further contends that the incorporation by reference language in the '250 patent meets the particularity and location requirements.

We agree with US Filter that the district court erred by concluding that the '319 patent is entitled to the priority date of the '373 patent, and thus clearly erred in concluding that the '319 patent was not anticipated by the '373 patent. We begin our analysis by focusing on 35 U.S.C. § 120, which governs entitlement to an earlier filing date in the United States. That section provides that:

An application for patent for an invention disclosed in the manner provided by the first paragraph of section 112 of this title in an application previously filed in the United States . . . which is filed by an inventor or inventors named in the previously filed application shall have the same effect, as to such invention, as though filed on the date of the prior application[.]

35 U.S.C. § 120. "In order to gain the benefit of the filing date of an earlier application under 35 U.S.C. § 120, each application in the chain leading back to the earlier application must comply with the written description requirement of 35 U.S.C. § 112."

Lockwood v. Am. Airlines, Inc., 107 F.3d 1565, 1571 (Fed. Cir. 1997); see also Reiffin v. Microsoft Corp., 214 F.3d 1342, 1346 (Fed. Cir. 2000) (noting that "claims to subject matter in a later-filled application not supported by an ancestor application in terms of § 112 ¶ 1 . . . do not receive the benefit of the earlier application's filing date"). Thus, in order for the '319 patent to be entitled to priority from the '373 patent, continuity of disclosure must have been maintained throughout a chain of patents from the '373 patent leading up to the '319 patent.

Incorporation by reference “provides a method for integrating material from various documents into a host document . . . by citing such material in a manner that makes clear that the material is effectively part of the host document as if it were explicitly contained therein.” Cook Biotech Inc. v. Acell, Inc., 460 F.3d 1365, 1376 (Fed. Cir. 2006) (quoting Advanced Display Sys., Inc. v. Kent State Univ., 212 F.3d 1272, 1282 (Fed. Cir. 2000)). “To incorporate material by reference, the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents.” Id. (emphases added). Whether material has been incorporated by reference into a host document, and the extent to which it has been incorporated, is a question of law. Cook, 460 F.3d at 1376. In making that determination, “the standard of one reasonably skilled in the art should be used to determine whether the host document describes the material to be incorporated by reference with sufficient particularity.” Advanced Display, 212 F.3d at 1282.

We have previously described incorporation by reference and anticipation as separate inquiries. We have stated that “no necessary contradiction exists given that incorporation by reference is a question of law while anticipation is a question of fact.” Id. We also clarified the court’s role in situations in which both inquiries are at issue. We held that “if incorporation by reference comes into play in an anticipation determination, the court’s role is to determine what material in addition to the host document constitutes the single reference. The factfinder’s role, in turn, is to determine whether that single reference describes the claimed invention.” Id.

In the present case, US Filter asserted that the '319 patent was invalid by reason of anticipation, and thus was required to prove by clear and convincing evidence that each and every element of the claimed invention was described in '373 patent. Id. Those facts pertaining to the anticipation determination, however, were largely undisputed by the parties. In the pre-trial order, the parties stipulated that the '373 patent "discloses each and every element of the claims of the '319 patent." Thus, the sole question before the district court was whether the intervening patents maintained the continuity of disclosure by incorporating by reference the gas distribution system disclosed in the '373 patent, entitling the '319 patent to an earlier filing date. In this respect, the court was required to determine that question of law, which we review de novo, using the reasonable person of ordinary skill in the art standard. Universal Elecs. Inc. v. United States, 112 F.3d 488, 493 (Fed. Cir. 1997) ("reviewing tribunals generally decide questions of law de novo because they are equally well suited to make such decisions").

Based on our review of the record, we disagree with the court's conclusion that the intervening patents incorporated by reference, with sufficient particularity to one reasonably skilled in the art, the gas distribution system disclosed in the '373 patent. The incorporation by reference language states that:

The vertical skein is not the subject matter of this invention and any prior art vertical skein may be used. Further details relating to the construction and deployment of a most preferred skein are found in the parent U.S. Pat. No. 5,639,373, and in Ser. No. 08/690,045, the relevant disclosures of each of which are included by reference thereto as if fully set forth herein.

'250 patent col.2 ll.30-36 (emphases added). We are not persuaded by Zenon's assertion, which the trial court accepted, that that language incorporates by reference

the entire disclosures of the '373 and '083 patents. Such an interpretation is inconsistent with the plain language of the statement. The plain language expressly limits the incorporation to only relevant disclosures of the patents, indicating that the disclosures are not being incorporated in their entirety. Moreover, the plain language indicates that the subject matter that is being incorporated by reference pertains to the details relating to the construction and deployment of a vertical skein. Thus, we must look, as one reasonably skilled in the art would, to the grandparent patents to determine what the patentees meant by details relating to the construction and deployment of a vertical skein.

We agree with US Filter that the gas distribution system disclosed in the '373 patent is not a detail that relates to the construction and deployment of a vertical skein. The '373 patent makes clear that the vertical skein and the gas distribution system are two separate and distinct elements of the claimed invention of the '373 patent. For example, claim 10 of the '373 patent refers to the skein and gas distribution system as two separate elements:

10. In a gas-scrubbed assembly comprising, a microfiltration membrane device in combination with a gas-distribution means . . .

* * *

said fibers, said headers and said permeate collection means together forming a skein . . .

* * *

said gas distribution means having through-passages therein to discharge a cleansing gas . . .

'373 patent claim 10 (emphases added). Claims 1 to 9 of the '373 patent, in addition, claim a membrane device that includes a vertical skein, but not a gas distribution system.

Turning to the written description, the '373 patent expressly states that the vertical skein consists of three distinct elements, viz., fibers, a pair of headers, and a permeate collection means. Id. at col.1 ll.31-38. Thus, by definition, a skein does not include a gas distribution system. In addition, throughout the '373 patent, the inventors used a specific term to describe the combination of a skein and a gas distribution means. For example, the patent states that:

It has also been discovered that permeate may be [efficiently] withdrawn from a substrate for a surprisingly long period, in a single stage, essentially continuous filtration process, by mounting a pair of headers in vertically spaced apart relationship, one above another, within the substrate which directly contacts a multiplicity of long vertical fibers in a "gas-scrubbed assembly" comprising a skein and a gas-distribution means.

'373 patent col.7 ll.55-62 (emphasis added); see also id. at col.9 ll.46-49 (stating that "[i]t is a specific object of this invention to provide the aforesaid novel gas-scrubbed assembly comprising, a bank of vertical skeins and a shaped gas-distribution means for use with the bank"). As such, a reasonable person of ordinary skill in the art would understand that the gas distribution system covered by the '373 patent is not a detail relating to the construction and deployment of a vertical skein, but rather is a separate and distinct element of the invention, and thus was not incorporated by reference in the '250 patent.

We are not persuaded by Zenon's arguments to the contrary. Zenon argues that the '250 patent incorporates the basic concept of the '373 patent's gas distribution system and merely discloses an improving addition to that system. Zenon argues that Figure 3 of the '250 patent supports its assertion because in that figure coarse bubbles are used to scrub the fibers as taught in the '373 patent. We disagree. While the

specification describes Figure 3 as a “a single skein with its integral finished header and permeate collection pan supported on a conversion baffle held between opposed skirts of a shroud,” '250 patent col.4 ll.16-19, the specification further teaches that the embodiment depicted in Figure 3 also includes the elements depicted in Figure 4, which includes a V-shaped trough 46, the air supply pipe 60 resting on the floor, and fine-bubble generators 61—elements not disclosed in the '373 patent. Id. at col.10 ll.36-53.

Moreover, the specification further teaches that the “baffle 40 is held above the floor 50 by opposing sidewalls (or skirts) and preferably the baffle is formed integrally with a box-shaped shroud having opposed sidewalls 42 and 42’ and opposed end walls 43, 43’ (not visible) to confine the fine bubbles beneath the lower header. The sidewalls are high enough, typically 1 to 2 meters, to allow time for the oxygen in the air to dissolve in the water.” Id. at col.10 ll.39-46 (emphases added). Thus, rather than describe a gas distribution system “having through-passages through the lower header to discharge bubbles into the substrate above the lower header” as claimed in the '319 patent, the '250 patent covers a gas distribution system that discharges fine bubbles into the substrate well below the lower header, typically 1 to 2 meters beneath the lower header. Notably, in the only example disclosed in the '250 patent, the patent teaches that the fine-bubble generators can be positioned as low as four meters beneath the lower header. Id. at col.12 ll.1-4 (“The skeins are submerged so that their lower headers are about 2 meters below the surface of the liquid in the bioreactor. The aerators are positioned about 4 meters below the lower header.”). As such, the '250 patent discloses a gas distribution system different from that disclosed in the '373 patent. What apparently occurred is that, in filing the '250 patent application, the gas

distribution system disclosed in the '373 patent was replaced with a different gas distribution system, but, when the '319 patent application was filed, the original gas distribution was restored. Thus, the chain of continuity was broken.

We are further unpersuaded by Zenon's argument that the incorporation by reference language is sufficiently clear such that it effectively incorporates the '373 patent's gas distribution system. In support of that proposition, Zenon relies on Cook Biotech Inc. v. Acell, Inc., 460 F.3d 1365 (Fed. Cir. 2006). In that case, the patentee intended to incorporate by reference a procedure described in an earlier patent. The patent stated that:

The preparation of UBS from a segment of urinary bladder is similar to the procedure for preparing intestinal submucosa detailed in U.S. Patent No. 4,902,508 ["the '508 patent"], the disclosure of which is expressly incorporated herein by reference.

Id. at 1375. That language was deemed sufficient to incorporate by reference the procedure disclosed in the '508 patent. Zenon argues that because the '250 patent uses similar general incorporation by reference language, the phrase "details relating to the construction and deployment of a most preferred skein" is sufficiently clear to incorporate the gas distribution system disclosed in the '373 patent.

Zenon's reliance on Cook is misplaced. The '508 patent at issue in Cook related to a method for preparing a tissue graft composition from a segment of the small intestine, '508 patent Abstract, and the incorporation by reference language clearly sought to incorporate that process. In contrast to the present case, the patentee in Cook did not purport to incorporate by reference material that exceeded the plain language of the incorporation statement. Here, Zenon seeks to incorporate the '373 gas distribution system which, as discussed above, is not covered by the plain language

of the incorporation by reference language, nor by the disclosures of the '373 patent. Thus, Cook does not aid Zenon, and the language in the '250 patent is not sufficiently clear to incorporate the '373 gas distribution system.

Lastly, we disagree with Zenon's assertion that the skeins cannot be deployed without the '373 patent gas distribution system, based on the embodiments of the '373 patent, and therefore the gas distribution system must be a detail relating to the skein. That contention is belied by claims 1-9 of the patent, as discussed above, which claim a membrane device that includes a skein, but not a gas distribution system.

Accordingly, because the '250 patent fails to incorporate by reference, with sufficient particularity to one reasonably skilled in the art, the gas distribution system disclosed in the '373 patent, and thus a lack of continuity of disclosure exists in the family chain, the '319 patent is not entitled to the filing date of the '373 patent. Because it is undisputed that the '373 patent discloses each and every limitation of the claims of the '319 patent, and the '373 patent was filed more than one year prior to the filing of the '319 patent, we thus conclude that the '319 patent is anticipated by the '373 patent and hence invalid.³

B. Cross-Appeal

As Zenon conceded at oral argument, in light of our conclusion that the '319 patent is invalid as anticipated by the '373 patent, we need not reach the cross-appeal

³ The dissent alarmingly indicates that our holding "casts doubt on the reliable use of [incorporation by reference]," and "raise[s] new risks of patent drafting." Dissenting Op. at 7. However, patent draftsmanship is an exacting art, and no less care is required in drafting an incorporation by reference statement than in any other aspect of a patent application. The draftsman here made clear what was being incorporated by reference and, by difference, what was not. No doubt or risk arises from carefully drafted language that is interpreted to mean what it says.

in which Zenon seeks to reverse the district court's grant of summary judgment of noninfringement.

CONCLUSION

For the foregoing reasons, we reverse the district court's judgment that the '319 patent is not invalid as anticipated by the '373 patent.

REVERSED

United States Court of Appeals for the Federal Circuit

2006-1266, -1267

ZENON ENVIRONMENTAL, INC.,

Plaintiff-Cross Appellant,

v.

UNITED STATES FILTER CORPORATION
(now known as Water Applications & Systems Corporation),

Defendant-Appellant.

NEWMAN, Circuit Judge, dissenting.

I respectfully dissent, for my colleagues have converted fact into law and ignored the findings of the district court as well as the agreed and undisputed facts, and misapplied the rules of incorporation by reference. The consequence is that the disclosure in the "grandparent" ('373) patent is held by this court to "anticipate" and thereby invalidate the "grandchild" ('319) patent that contains the text of the '373 patent.

The pretrial order stated, and it is not disputed, that the '373 patent "discloses each and every element of the claims of the '319 patent." The district court stated that "[c]laim 7 of the '319 patent, at issue in this case, is agreed by the parties to be completely disclosed by [the '373 patent]." Zenon Environmental, Inc. v. United States Filter Corp., No. 03CV1996-B (S.D. Cal May 4, 2005), slip op. at 2. The parties agree that the subject

matter of claim 7 appears in the '373 specification, the appellant's brief stating: "The parties agree that the '373 patent and '083 patent, the first two patents in the family chain, disclose the gas distribution system of the '319 patent," and the appellee's brief stating: "It is undisputed that the '319 patent discloses the gas distribution system of the '373 patent." In all of the patents the distribution system is described whereby gas flows from the base of the skein through passages in the skein.

The continuity from the '373 application was preserved through several continuing applications and divisionals, which claim various aspects of the evolving invention. 35 U.S.C. §120 provides that continuity with previously filed applications is established

. . . if filed before the patenting or abandonment of or termination of proceedings on the first application or on an application similarly entitled to the benefit of the filing date of the first application and [contains] a specific reference to the earlier filed application.

It is not disputed that the requirements of overlapping pendency and specific reference to the earlier filed application were met. The '319 patent sets forth the chain of copending applications back to the '373 patent; the specification of the '319 patent stating, in the "Cross-Reference to Related Applications":

This application is a continuation of Ser. No. 09/507,438, filed Feb. 19, 2000 issued as U.S. Pat. No. 6,294,039; which is a division of Ser. No. 09/258,999, filed Fed. 26, 1999, issued as U.S. Pat. No. 6,042,677; which is a division of Ser. No. 08/896,517, filed Jun. 16, 1997, issued as U.S. Pat. No. 5,910,250; which is a continuation-in-part application of Ser. No. 08/690,045, filed Jul. 31, 1996, issued as U.S. Pat. No. 5,783,083 which is a non-provisional of provisional application Ser. No. 60/012,921 filed Mar. 5, 1996 and a continuation-in-part of Ser. No. 08/514,119, filed Aug. 11, 1995, issued as U.S. Pat. No. 5,639,373. The disclosure of all the patents and applications listed above are hereby incorporated by reference thereto as if fully set forth herein.

'319 patent, col. 1, lines 8-21. The intervening '250 patent contains the specific incorporation by reference clause here at issue:

The vertical skein is not the subject matter of this invention and any prior art vertical skein may be used. Further details relating to the construction and deployment of a most preferred skein are found in the parent U.S. Pat. No. 5,639,373, and in Ser. No. 08/690,045, the relevant disclosures of each of which are included by reference thereto as if fully set forth herein.

'250 patent, col. 2, lines 30-36. The district court concentrated on the "construction and deployment" portion of this clause, in response to the defendant's argument that continuity of disclosure was lost by that clause of the '250 patent.

Although the panel majority agrees that the grandparent '373 patent "discloses each and every element of the claims of the '319 patent," maj. op. at 9, my colleagues rule, as a matter of "law," that the '373 patent invalidates the '319 patent. The subject matter on which the majority focuses is clause (d) of claim 7 of the '319 patent:

[7](d) a gas distribution system having through-passages through the lower header to discharge bubbles into the substrate above the lower header.

The panel majority holds that claim 7 is invalid because the same gas distribution system is described in the '373 patent, but the full text of the '373 patent was not reproduced in all of the intervening patents, but in part incorporated by reference. Contrary to the findings of fact of the district court, the panel majority finds that the incorporation clause in the '250 patent, supra, broke the continuity of disclosure.

This defense was presented to the district court, the defendant arguing that it was not sufficiently clear whether the words of incorporation embraced all of the elements of the grandparent '373 patent and the grandchild '319 patent, and particularly the gas distribution through the skein. The district court held an evidentiary hearing to determine what a

person of ordinary skill in the field of the invention would understand from the clause incorporating the "details relating to the construction and deployment of a most preferred skein." See Advanced Display Systems, Inc. v. Kent State University, 212 F.3d 1272, 1282 (Fed. Cir. 2000) ("the standard of one reasonably skilled in the art should be used to determine whether the host document describes the material to be incorporated by reference with sufficient particularity"); U.S. Steel Corp. v. Phillips Petroleum Co., 865 F.2d 1247, 1251 (Fed. Cir. 1989) (a patent's specification "is to be understood for what it meant to one having ordinary skill in the art at the time the application was filed").

The question of what material would be understood as incorporated is a question of fact, on which the district court made extensive findings, including:

[A] gas distribution system is clearly related - intimately - to the construction and deployment of the skeins described in the '373 patent. [Zenon, slip op. at 5.]

The incorporation by reference to "details relating to the construction and deployment of the skeins" disclosed in the '373 patent and the application for the '083 patent would be readily understood by a person of ordinary skill in the art to involve a gas distribution system. [Id. at 5-6.]

[A] person of ordinary skill would have little or no interest in any disclosures of the '373 patent other than all disclosures relating to the construction and deployment of the skeins shown in the '373 patent, and of course the gas distribution system is the "elephant in the room" of relevancy for those disclosures. [Id. at 6.]

[Zenon] showed how clearly anything in the disclosures which related to the construction and deployment of a preferred skein would be understood by a person of ordinary skill, and [at the] top of the list would be the gas distribution system. [Id.]

No witness testified that a gas distribution system did not relate to the construction and deployment of a skein [Id.]

[T]he relevance of the gas distribution system disclosures in the '373 patent cannot be missed, since the '250 patent discloses in part the coarse bubble

gas scrubbing system which takes over from the completion of the service of the conversion baffles which deliver coarse bubbles to the skein for cleansing the fibers there above. [Id. at 8.]

[T]he reference to "details relating to the construction and deployment of a most preferred skein" clearly and specifically direct a person of ordinary skill to the gas distribution system of '373, which is thus incorporated by reference in the '250. [Id.]

The district court referred to the burden of proof, as the court found that continuity of disclosure was preserved from the '373 patent to the '319 patent:

[A]lthough not plaintiff's burden, the Court finds the incorporations by reference are fully informative to a person of ordinary skill, and that they permit the transfer of all disclosures of the '373 patent which cover claim 7 of the '319 patent to flow through all intermediary patents to the '319. [Id. at 5.]

The court also observed that the incorporation was reviewed by the patent examiner. This administrative finding carries the deference required by the Administrative Procedure Act.

See Dickinson v. Zurko, 527 U.S. 150, 152 (1999). My colleagues ignore the administrative findings, as they ignore the district court.

The district court found:

[T]he Court finds the incorporations by reference are fully informative to a person of ordinary skill, and that they permit the transfer of all disclosures of the '373 patent which cover claim 7 of the '319 patent to flow through all intermediary patents to the '319. [Zenon, slip op. at 5.]

The panel majority does not review the district court's findings, and instead announces that this is a matter of "law." However, the question of what would be "reasonably conveyed to a person skilled in the relevant art," is a classical question of fact. Bilstad v. Wakalopulos, 386 F.3d 1116, 1126 (Fed. Cir. 2004). Indeed, this court has explained that we are "not permitted to make" such fact findings:

[A] resolution of the question of whether Bilstad's disclosure of manipulation in a small number of directions would reasonably convey to a person skilled

in the relevant art that Bilstad had possession of manipulation in a plurality of directions as of his filing date requires fact findings this court is not permitted to make.

Id. at 1126 (emphasis added).

The question of what technology is included in the incorporation clause, as it would be understood by a person of ordinary skill in the field of the invention, was resolved by the district court, in findings that have not been shown to be clearly erroneous. These highly factual questions are not rules of law; they are the facts to which 35 U.S.C. §120 is applied. Cf. Arrowhead Indus. Water, Inc. v. Ecolochem, Inc., 846 F.2d 731, 735 (Fed. Cir. 1988) ("the district court's view of the legal effect of the fact pattern before it is not to be lightly disregarded").

My colleagues also criticize the specificity of the incorporation clause in the '250 patent. However, this clause is not distinguishable in specificity from that ratified in Cook Biotech, Inc. v. Acell, Inc., 460 F.3d 1365 (Fed. Cir. 2006), where the incorporation clause was as follows:

The preparation of UBS from a segment of urinary bladder is similar to the procedure for preparing intestinal submucosa detailed in U.S. Patent No. 4,902,508 the disclosure of which is expressly incorporated herein by reference.

Id. at 1376. The only difference in the specificity of the incorporation in the '250 patent, and the traditional incorporation text, is the uncertainty brought by the court to this routine practice. Incorporation by reference is a routine expedient of patent drafting. The district court's finding that a person of ordinary skill in the field of the invention would understand what is included in the incorporated subject matter, ends the inquiry.

The issue in this case is simple. The issue is not whether the invention claimed in the '319 patent could have been claimed in the '373 grandparent; nor is the issue one of priority as against a competing claimant; nor is the applicant reaching out for a broad incorporation of background technology from unspecified parts of unrelated publications. Here, the applicant simply invoked the expedient of incorporating a prior disclosure in a chain of applications on the same subject matter. The gas distribution system described in the '319 patent is the same as that of the '373 patent, with continuity of disclosure that includes an incorporation by reference.

The panel majority's holding casts doubt on the reliable use of this expedient, lest an earlier patent become an invalidating reference against its successors in the chain of filings. The majority's rejection of the factual foundations of incorporation by reference and creation of a new area of *de novo* appellate authority, raise new risks of patent drafting. The apparent requirement that all subject matter must be reproduced in all continuing applications adds nothing to the knowledge disclosed to the public, adds nothing to the information provided to the patent examiner, and adds nothing to compliance with 35 U.S.C. §120; it simply adds costs and pitfalls to inventors, as they attempt to walk new judicial tightropes.