United States District Court,
N.D. Illinois, Eastern Division.

DICON GLOBAL INC,
Plaintiff.
v.
SENCO SENSORS, INC., et al,
Defendants.

Nov. 19, 2004.

William M. Lee, Jr., Bradley Allen Ullrick, Barnes & Thornburg, Chicago, IL, for Plaintiff.

Carlton Dean Fisher, Hinshaw & Culbertson, Michael O. Warnecke, Douglas M. Eveleigh, Aric Seth Jacover, Mayer, Brown, Rowe & Maw LLP, Chicago, IL, for Defendants.

MEMORANDUM OPINION AND ORDER

CONLON**, J.**

Dicon Global, Inc. sues Senco Sensors, Inc. and Kehoe Component Sales, Inc., d/b/a Pace Electronic Products ("defendants") for patent infringement pursuant to 35 U.S.C. s. 271 et seq. Defendants counterclaim for non-infringement and invalidity. Cross-motions for construction of the disputed claims are before the court.

BACKGROUND

Dicon is the exclusive licensee of U.S. Patent No. 5,173,166 ("the '166 patent"). The '166 patent was filed with the United States Patent and Trademark Office on April 16, 1990, and was issued on December 22, 1992. The '166 patent describes an electrochemical gas sensor that can detect a gas contaminant in an atmosphere. Pl. Mot. at 3; Def. Mot. at 1. The sensor of the '166 patent has an electrode that is "exposed to the atmosphere" and a counter electrode that is "isolated from any exposure to the atmosphere." Def. Mot. at 1. A change in the electrical potential between the first electrode and the second counter electrode signals the presence of the gas contaminate. Id. at 2. Dicon alleges defendants infringed claim 1 of the '166 patent by making, selling, and using electrochemical gas sensors.

DISCUSSION

I. Legal Standard

Claim construction is a question of law. To construe a claim, the court must first look to intrinsic evidence, "*i.e.,* the patent itself, including the claims, the specification, and if in evidence, the prosecution history." Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1583 (Fed.Cir.1996). The court must begin with the plain language of the claims. York Prods., Inc. v. Central Tractor Farm & Family Ctr., 99 F.3d 1568, 1572

(Fed.Cir.1996). Claim terms must be given their ordinary and accustomed meaning. Johnson Worldwide Assoc., Inc., v. Zebco Corp., 175 F.3d 985, 989 (Fed.Cir.1999). Next, the court examines the patent specification. The specification contains a written description of the invention that should be clear and complete to enable a person of ordinary skill in the art to make and use the invention. Vitronics, 90 F.3d at 1582. The specification is "always highly relevant to the claim construction analysis" and "is usually dispositive; it is the single best guide to the meaning of a disputed term." *Id*. Dictionaries also may be examined to determine the ordinary and accustomed meaning of claim terms. Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1325 (Fed.Cir.2002). Extrinsic evidence is examined only when the patent and the prosecution history do not provide a clear answer. Ekchian v. Home Depot, Inc., 104 F.3d 1299, 1302 (Fed.Cir.1997). The accused device is not considered when determining the scope of the claims. Young Dental Mfg. Co., Inc. v. Q3 Special Prods., Inc., 112 F.3d 1137, 1141 (Fed.Cir.1997).

II. Claim Construction

Dicon's motion for claim construction generally describes the '166 patent and law pertaining to claim construction. However, Dicon's motion does not actually request that any claims be construed. Instead, Dicon asserts the claim language is that which has ordinary meaning and plain usage to one of ordinary skill in the art of electrochemical sensors. To the extent any claim language needs further definition, Dicon contends the court need not look any further than the '166 patent specification and prosecution history.

Defendants offer claim constructions for three limitations found in claim 1 of the '166 patent. Moreover, defendants seek to invalidate claim 1 based on indefiniteness. Claim 1 provides:

An electrochemical gas sensor cell for quantitative measurement of gaseous or volatile contaminants in an atmosphere being monitored, said gas sensor cell comprising at least a first gas permeable porous sensor electrode mounted in a first frame member, a second gas permeable porous counter electrode mounted in a second frame member, a third electrically non-conductive frame member, *an ion conductive electrolyte contained within an electrolyte chamber formed in said third frame member,* said first and second electrodes and said first and second frame members being located at first and second sides, respectively, of said electrolyte such that at least a portion of each of said first electrode and said second counter electrode contact said electrolyte ...

wherein said electrolyte is retained in said third frame member *in such a manner as to substantially accommodate changes* in temperature or humidity of said atmosphere ...

said sensor electrode being mounted and secured with respect to said first frame member so as to be exposed to said atmosphere, and said counter electrode being mounted and secured with respect to said second frame member so as to be *isolated from any exposure to said atmosphere ...*

whereby, when said atmosphere contains a gas contaminant for which the catalyst on said sensor electrode is chosen to produce a change in *electrical potential* with respect to said counter electrode when said sensor electrode is exposed to said gas contaminant in the presence of the chosen ion conductive electrolyte, said electrical measurement means detects the change of said *electrical potential,* which thereby is indicative of the presence of said gas contaminant.

Def. Mot. at Ex. A, Col. 13, Ins. 15-60 (emphasis added).

A. "Isolated From Any Exposure to Said Atmosphere"

Defendants seek construction of the claim limitation "isolated from any exposure to said atmosphere." Defendants contend the court may use dictionary definitions to give claim terms their customary and ordinary meaning. Accordingly, defendants rely on The American College Dictionary (1964) to define the words "isolate," "any," and "atmosphere." FN1 The dictionary defines "isolate" as "to set or place apart; detach or separate so as to be alone." The word "any" is defined as "(with a negative) none at all" or "in any degree; to any extent; at all ..." The term "atmosphere" is defined as "the gaseous fluid surrounding the earth; the air." Defendants assert the context of the claim language applies the term "atmosphere" to mean the atmosphere being monitored. Based on the dictionary definitions, defendants argue the proper construction of the claim limitation "isolated from any exposure to said atmosphere" is "separated so that there is no exposure at all to the air being monitored to any degree or extent." Defendants contend this construction is consistent with the '166 patent specification, which shows the second counter electrode is separated from exposure to the atmosphere by use of a plug that seals the chamber, or by total encasement of the electrode in the frame. In both cases, defendants assert there is no way for the outside air to reach the counter electrode. Finally, defendants contend there is no disclosure in the '166 patent that teaches the counter electrode can be exposed to the outside air in any manner, and there is nothing in the prosecution history to contradict defendants' proposed construction.

FN1. Defendants also purport to provide a dictionary definition for "exposure." This definition is not in fact provided.

Dicon argues defendants' use of extrinsic evidence, dictionary definitions, to interpret the '166 patent claims is inappropriate. Dicon contends the specification makes clear the second counter electrode, while isolated from direct outside air, is exposed to an enclosed volume of scrubbed or otherwise uncontaminated air. Dicon asserts, without citation to the record, the specification teaches that the outside air may pass to the counter electrode after being scrubbed by an electrolyte. Therefore, Dicon argues defendants inappropriately ignore the broad context of the intrinsic evidence and seek a construction that inappropriately limits the patent's scope.

The appropriate role of dictionary definitions in claim construction is somewhat unclear. The Federal Circuit has held dictionaries may be relied upon to construe patent claims:

When a patent is granted, prosecution is concluded, the intrinsic record is fixed, and the public is placed on notice of its allowed claims. Dictionaries, encyclopedias and treatises, publicly available at the time the patent is issued, are objective resources that serve as reliable sources of information on the established meanings that would have been attributed to the terms of the claims by those of skill in the art. Such references are unbiased reflections of common understanding not influenced by expert testimony or events subsequent to the fixing of the intrinsic record by the grant of the patent, not colored by the motives of the parties, and not inspired by litigation. *Indeed, these materials may be the most meaningful sources of information to aid judges in better understanding both the technology and the terminology used by those skilled in the art to describe the technology.*

Tex. Digital Sys. v. Telegenix, Inc., 308 F.3d 1193, 1203 (Fed.Cir.2002) (emphasis added). *Texas Digital* explains that, because dictionaries may have multiple definitions for a term that do not apply to the claim, the interpreting court must refer to the intrinsic record to determine which definition is most consistent with

the words used by the inventor. *Id*. Indeed, the dictionary definition must be rejected if it is inconsistent with the intrinsic record. *Id*. at 1204. "In short, the presumption in favor of a dictionary definition will be overcome where the patentee ... has clearly set forth a clear definition of the term different from its ordinary meaning." *Id*. Therefore:

By examining relevant dictionaries, encyclopedias and treatises to ascertain possible meanings that would have been attributed to the words of the claims by those skilled in the art, and by further utilizing the intrinsic record to select from those possible meanings the one or ones most consistent with the use of the words by the inventor, the full breadth of the limitations intended by the inventor will be more accurately determined and the improper importation of unintended limitations from the written description into the claims will be more easily avoided.

Id. at 1205. Accordingly, defendants have provided their limitation interpretations based on dictionary definitions that were in existence as of April 16, 1990, when the '166 patent was filed.

In contrast, *C.R. Bard Inc. v. U.S. Surgical Corp.,* No. 04-1135, 2004 U.S.App. LEXIS 22738 (Fed.Cir. Oct. 29, 2004), emphasizes that the intrinsic record alone remains the primary source for determining claim meaning. *Id*. at *8. *C.R. Bard* notes that other cases, including *Texas Digital,* suggest the intrinsic record should be consulted only after determining the ordinary and customary meaning of claim terms with dictionary assistance. *Id*. at *9-12. Instead, *C.R. Bard* contends that the intrinsic evidence is the single most reliable guide to construe disputed claims. *Id*. at *9-12.

The Federal Circuit has granted an *en banc* rehearing to broadly address the law of claim construction. Phillips v. AWH Corp., 376 F.3d 1382 (Fed.Cir. July 21, 2004). Specifically, the court intends to clarify seven issues, including the following three:

1. Is the public notice function of patent claims better served by referencing primarily to technical and general purpose dictionaries and similar sources to interpret a claim term or by looking to the patentee's use of the term in the specification? If both sources are to be consulted, in what order?

2. If dictionaries should serve as the primary source for claim interpretation, should the specification limit the full scope of claim language (as defined by the dictionaries) only when the patentee has acted as his own lexiographer or when the specification reflects a clear disclaimer of the claim scope? If so, what language in the specification will satisfy those conditions? What use should be made of general as opposed to technical dictionaries? How does the concept of ordinary meaning apply if there are multiple dictionary definitions of the same term? If the dictionary provides multiple potentially applicable definitions for a term, is it appropriate to look to the specification to determine what definition or definitions should apply?

3. If the primary source for claim construction should be the specification, what use should be made of dictionaries? Should the range of the ordinary meaning of claim language be limited to the scope of the invention disclosed in the specification, for example, when only a single embodiment is disclosed and no other indications of breadth are disclosed?

Id. at 1383. There is no need to await the forthcoming *en banc* decision before construing the '166 patent claims. While the extent to which dictionaries may be used is unclear, dictionaries may still be used, to some degree, to determine the ordinary and customary meaning of claim terms. *See e.g.,* Texas Digital, 308 F.3d at 1203-05. *C.R. Bard* teaches dictionaries should not be relied upon before, or to the exclusion of,

intrinsic evidence. However, the use of dictionaries does not mean intrinsic evidence has been ignored; dictionaries and intrinsic evidence together may assist the court in construing claims. Indeed, the specification remains "highly relevant to the claim construction analysis" and "is usually dispositive; it is the single best guide to the meaning of a disputed term." Vitronics, 90 F.3d at 1582. The court will not construe the disputed claims with dictionary definitions alone; review of the intrinsic evidence remains a fundamental part of the court's analysis.

Review of the intrinsic evidence shows defendants' claim construction is sound. The claims and specification are clear that the first electrode is exposed to the atmosphere being monitored, while the counter electrode is not exposed to the monitored atmosphere. *See* Def. Mot. at Ex. A, Col. 4, lns. 17-25; Col. 6, lns. 64-67-Col. 7, lns. 1-5; Col. 13, lns. 43-48. Dicon fails to offer a claim construction of its own. Its criticism of defendants' construction essentially asks the court to read "isolated from any exposure to said atmosphere" to mean "isolated from any exposure to air that has not been stripped of a contaminate gas." While the specification indicates that in one embodiment of the invention the second counter electrode may be exposed to a contained volume of cleaned or scrubbed air, *Id*. at Col. 5, lns. 1-7; Col. 8, lns. 23-32, the court does not limit, broaden or re-write claims. Netword, LLC v. Centraal Corp., 242 F.3d 1347, 1352 (Fed.Cir.2001); K-2 Corp. v. Salomon S.A., 191 F.3d 1356, 1364 (Fed.Cir.1999). The inventors' use of the word "atmosphere" throughout the specification and in the claims was deliberate and the court must give effect to the terms chosen by the patentee. K-2 Corp., 191 F.3d at 1364. Indeed, the inventors used terms such as "cleaned or scrubbed air," and "uncontaminated air," throughout the specification, but chose the words "isolated from *any* exposure to said *atmosphere*" for the claim limitation. Def. Mot. at Ex. A, Col. 13, lns. 43-48 (emphasis added). The court construes the limitation "isolated from any exposure to said atmosphere" to mean "separated so that there is no exposure at all to the air being monitored to any degree or extent."

B. "Electrical Potential"

Defendants seek construction of the claim limitation "electrical potential." Defendants resort to Webster's New World Dictionary of the American Language (2d ed.1972) to determine the ordinary and customary meaning of "electrical potential." The dictionary describes "potential" as "Elec. the relative voltage at some point in an electric circuit or field with respect to some reference point in the same circuit or field." Defendants therefore submit the proper construction of the claim limitation "electrical potential" should be "the relative voltage at some point in an electric circuit or field with respect to some reference point in the same circuit or field." Defendants contend the '166 patent specification is consistent with this definition because the specification figures use voltmeters in each invention embodiment. Moreover, defendants assert nothing in the prosecution history contradicts their proposed construction.

Dicon argues that by asserting a voltmeter must be used to measure electrical potential, defendants improperly import a particular embodiment into claim 1 and misconstrue the specification. Dicon contends the patent description provides means other than a voltmeter, including potentiometric, galvanostatic and amperiometric means, for sensing electrical potential. *See* Def. Mot. at Ex. A, Col. 7, Ins. 21-26. Dicon further asserts the "electrical potential" language is contained in a "whereby" clause; therefore, the claim does not *require* that a change in electrical potential be created. Rather, Dicon contends the clause states that if a change in electrical potential is created, the means used for electrical measurement must detect that change.

Again, Dicon criticizes defendants' claim construction without offering a claim construction of its own.

Further, Dicon's arguments miss the mark. The issue here is not the means by which electrical potential changes must be measured. Rather, the issue is the proper construction of the term "electrical potential," regardless of how electrical potential is measured. Defendants' construction of "electrical potential" is sound and consistent with the intrinsic evidence. The phrase must be given its ordinary and customary meaning. Johnson Worldwide Assoc., Inc., v. Zebco Corp., 175 F.3d 985, 989 (Fed.Cir.1999). Therefore, the court construes "electrical potential" to mean "the relative voltage at some point in an electric circuit or field with respect to some reference point in the same circuit or field."

C. "An Ion Conductive Electrolyte Contained Within An Electrolyte Chamber Formed in Said Third Frame Member"

Defendants seek construction of the claim limitation "an ion conductive electrolyte contained within an electrolyte chamber formed in said third frame member." Defendants rely on The American College Dictionary (1964) to define the words "contain" and "within." The word "contain" is defined as "to have within itself; hold within fixed limits." The word "within" is defined as "in the compass or limits of; not beyond ..." Thus, defendants propose the phrase "contained within" means "within fixed limits and not beyond." Therefore, defendants contend the claim limitation means "the ion conductive electrolyte is within the fixed limits of an electrolyte chamber formed in the third frame member and not beyond." Defendants assert the patent specification is consistent with their definition because the embodiments show the electrolyte within fixed limits of, and not extending beyond, the third frame member. Moreover, defendants assert nothing in the prosecution history contradicts their proposed construction.

Dicon argues the meaning of the phrase "contained within" is clear to one of ordinary skill in the art and does not require a dictionary definition. Dicon asserts defendants' use of extrinsic evidence to interpret a term that is clear from the intrinsic evidence must be rejected and the phrase "contained within" should be given its ordinary and customary meaning. Further, Dicon contends defendants' attempt to make claim 1 read as if it were a "consisting of" claim that excludes other features, as opposed to a "comprising" claim that allows other features to be added, is erroneous. Dicon argues the preamble language quoted by defendants does not read "wholly contained within" and defendants are improperly placing limitations on the ordinary language of the claim.

Defendants' construction of "an ion conductive electrolyte contained within an electrolyte chamber formed in said third frame member" as meaning "the ion conductive electrolyte is within the fixed limits of an electrolyte chamber formed in the third frame member and not beyond," is sound. Nothing in the intrinsic evidence is inconsistent with defendants' proposed construction of the ordinary and customary meaning of the claim terms. Dictionary definitions may be used to assess the ordinary and customary meaning of claim terms. Tex. Digital Sys. v. Telegenix, Inc., 308 F.3d 1193, 1203 (Fed.Cir.2002); Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1325 (Fed.Cir.2002). Dicon does not argue defendants' definitions are incorrect. Instead, Dicon contends the meanings of the limitations are clear and do not need any definition. Nevertheless, the court construes "an ion conductive electrolyte contained within an electrolyte chamber formed in said third frame member" as meaning "the ion conductive electrolyte is within the fixed limits of an electrolyte chamber formed in the third frame member and not beyond."

D. Invalidity of Claim 1

Claim 1 provides "wherein said electrolyte is retained in said third frame member *in such a manner as to substantially accommodate changes* in temperature or humidity of said atmosphere ..." (emphasis added). Defendants argue the claim limitation is vague and renders claim 1 invalid. In support, defendants cite 35

U.S.C. s. 112, para. 2, which states that to obtain a patent the claims must particularly and distinctly point to the subject matter being claimed as an invention. Defendants contend "in such a manner as to substantially accommodate changes" is so vague that one who is reading the claim limitation would have no idea as to the intended scope of the claim term. Because it fails to meet the requirements of 35 U.S.C. s. 112, para. 2 for precision and accuracy, defendants argue claim 1 is indefinite and therefore invalid.

Dicon responds that defendants' argument really takes issue with the word "substantially," because defendants argue the language does not allow one of ordinary skill in the art to determine what type of structure would retain an electrolyte in a manner to "substantially accommodate changes" as oppose to a structure that "insubstantially" accommodates a change. Dicon asserts the Federal Circuit in Liquid Dynamics Corp. v. Vaughan, Inc., 355 F.3d 1361, 1368 (Fed.Cir.2004), has interpreted "substantially" to be a meaningful modifier implying "approximate," rather than "perfect." Further, Dicon argues the Federal Circuit has stated "words of approximation, such as 'generally' and 'substantially,' are descriptive terms 'commonly used in patent claims to avoid a strict numerical boundary to the specified parameter." ' Anchor Wall Syst. v. Rockwood Retaining Walls, Inc., 340 F.3d 1298, 1311 (Fed.Cir.2003) (citations omitted). Accordingly, Dicon contends defendants cannot seriously argue the term "substantially" is not sufficiently defined so as to aid a competitor in understanding the claimed structure.

An indefinite analysis under 35 U.S.C. s. 112 is inextricably linked with claim construction. Amtel Corp. v. Information Storage Devices, Inc., 198 F.3d 1374, 1379 (Fed.Cir.1999). "It is well established that the determination whether a claim is invalid as indefinite depends on whether those skilled in the art would understand the scope of the claim when the claim is read in light of the specification." Id. at 1378. "If the claims read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, s. 112 demands no more." Personalized Media Comms. LLC, v. ITC, 161 F.3d 696, 706 (Fed.Cir.1998), *quoting* Miles Lab., Inc., v. Shandon, 997 F.2d 870, 875 (Fed.Cir.1993).

A claim is not indefinite merely because it poses a difficult issue of claim construction; if the claim is subject to construction, i.e., it is not insolubly ambiguous, it is not invalid for indefiniteness. That is, if the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds. By finding claims indefinite only if reasonable efforts at claim construction prove futile, we accord respect to the statutory presumption of patent validity, see 35 U.S.C. s. 282, and we protect the inventive contribution of patentees, even when the drafting of their patents has been less than ideal. Thus, close questions of indefiniteness in litigation involving issued patents are properly resolved in favor of the patentee.

Bancorp Servs., L.L.C. v. Hartford Life Ins. Co., 359 F.3d 1367, 1372 (Fed.Cir.2004) (citations and quotations omitted).

The phrase "in such a manner as to substantially accommodate changes ..." is not sufficiently vague so as to render claim 1 invalid, particularly when read in light of the specification. The word "substantially" is not automatically indefinite. Anchor Wall Syst. v. Rockwood Retaining Walls, Inc., 340 F.3d 1298, 1311 (Fed.Cir.2003) ("words of approximation such as generally and substantially are descriptive terms commonly used in patent claims to avoid a strict numerical boundary to the specified parameter"). The specification provides guidance and examples regarding the scope of the phrase. *See* Def. Mot. at Ex. A, Col. 6, Ins. 46-63. Claim 1's limitation "in such a manner as to substantially accommodate changes ...," read in light of the specification, reasonably apprises those skilled in the art of the scope of the invention.

Personalized Media, 161 F.3d at 706.

N.D.Ill.,2004.
Dicon Global Inc. v. Senco Sensors, Inc.

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