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

IMAGECUBE LLC,
Plaintiff.
v.
THE BOEING COMPANY, MTS Systems Corporation, and Aeromet Corporation,
Defendants.

April 17, 2006.

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MEMORANDUM OPINION AND ORDER

JAMES B. ZAGEL**, Judge.**

Plaintiff Imagecube LLC ("Imagecube") filed suit against Defendants The Boeing Company, MTS Systems Corporation and Aeromet Corporation, alleging infringement of U.S. Patent No. RE37.875 ("the '875 patent"). The patent describes a process for manufacturing three-dimensional objects by exposing a dispersion of component materials, such as metals, ceramics or polymers, to radiation. The parties dispute the meaning of the term homogenization, found in four of the patent's independent claims and throughout the specification. The parties also dispute the meaning of claim 51 of the reissued patent, which is the patent's final claim and the only one of the asserted, independent claims to lack the "homogenization" requirement.

Claim construction is a matter of law for the court to decide. Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996). In order "[t]o ascertain the meaning of claims, [the court] consider[s] three sources: The claims, the specification, and the prosecution history." Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed.Cir.1995), *aff'd* 517 U.S. 370 (1996). These three sources are the intrinsic evidence, public records available for all to consult when determining the meaning and scope of a patent claim. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). When the intrinsic evidence unambiguously describes the scope of a patented invention, reliance on extrinsic evidence, such as expert testimony and treatises, is inappropriate. Id. at 1583.

Claim interpretation begins with the actual words of the claims. Bell Communications Research v. Vitalink Communications Corp., 55 F.3d 615, 619-20 (Fed.Cir.1995); *see also* Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1324 (Fed.Cir.2002). Generally, the words, phrases and terms in patent claims should receive their ordinary and accustomed meaning. Johnson Worldwide Assocs. v. Zebco Corp., 175 F.3d 985,

989 (Fed.Cir.1999). The strong presumption in favor of the ordinary meaning may be overcome only when the patentee "clearly set[s] forth a definition for a claim term in the specification." Anchor Wall Sys. v. Rockwood Retaining Walls, Inc., 340 F.3d 1298, 1306 (Fed.Cir.2003) (*citing* Johnson Worldwide Assocs., 175 F.3d at 989-90); *see also* Dow Chem. Co. v. Sumitomo Chem. Co., 257 F.3d 1364, 1372 (Fed .Cir.2001) ("a technical term used in a patent claim is interpreted as having the meaning a person of ordinary skill in the field of the invention would understand it to mean") (citation omitted). A patentee "may choose to be his own lexicographer and use terms in a manner other than their ordinary meaning, as long as the special definition of the term is clearly stated in the patent specification or file history." Vitronics Corp., 90 F.3d at 1582 (citation omitted).

Additionally, "[c]laims must be read in view of the specification, of which they are a part." Markman, 52 F.3d at 979 (citations omitted). The specification may reveal "whether the inventor has used any terms in a manner inconsistent with their ordinary meaning." Vitronics Corp., 90 F.3d at 1582. "The specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Id*. The specification also serves as an aid in determining "the meaning of the claim term as it is used ... in the context of the entirety of [the] invention ." Interactive Gift Express, Inc. v. Compuserve Inc., 231 F.3d 859, 866 (Fed.Cir.2000) (quoting Comark Communs., Inc. v. Harris Corp., 156 F.3d 1182, 1187 (Fed.Cir.1998)).

The claims, however, are not limited to the embodiment shown in the specifications. *See* Anchor Wall Sys., 340 F.3d at 1307; Transmatic, Inc. v. Gulton Indus., 53 F.3d 1270, 1277 (Fed.Cir.1995). Limitations appearing only in the specifications cannot be read into a claim because "the claim, not the specification, measures the invention." Howes v. Zircon Corp., 992 F.Supp. 957, 961 (N.D.Ill.1998) (citing SRI Int'l v. Matsushita Elec. Corp., 775 F.2d 1107 (Fed.Cir.1985)). However, when the specification is "clear that the invention does not include a particular feature, that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question." SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1341 (Fed Cir.2001).

Each patent has a corresponding publicly-available record called the prosecution history, which details the proceedings before the Patent and Trademark Office ("PTO"). The prosecution history may limit the interpretation of claim terms by revealing express representations made by the applicant regarding the scope of the claims or by excluding interpretations that were disclaimed during prosecution. Vitronics, 90 F.3d at 1582-83 (citations omitted). However, "unless altering claim language to escape an examiner rejection, a patent applicant only limits claims during prosecution by clearly disavowing claim coverage." Kopykake Enters. v. Lucks Co., 264 F.3d 1377, 1382 (Fed.Cir.2001) (internal quotation and citation omitted). Any such disavowal "must be clear and unmistakable." Anchor Wall Sys., 340 F.3d at 1307. Finally, extrinsic evidence such as expert testimony may be considered only where the language of the claims remains ambiguous after consideration of the claim language, specification and file history. Key Pharms. v. Hercon Lab. Corp., 161 F.3d 709, 716 (Fed.Cir.1998). "[E]xtrinsic evidence in general, and expert testimony in particular, may be used only to help the court come to the proper understanding of the claims; it may not be used to vary or contradict the claim language." Vitronics, 90 F.3d at 1584.

A. "Homogenization"

The parties dispute the meaning of the term "homogenization" as it appears in claims 1, 25, 32 and 34. The parties agree that the inventor, John Lawton, acted as his own lexicographer and defined the meaning of the

term within the patent. They disagree on the scope of Lawton's definition. Imagecube finds the complete definition of homogenization in the opening sentence of the '875 patent's "Description of Preferred Embodiments," which reads:

The term "homogenized" or "homogenization", for the purposes of this disclosure, will refer to the formation of an alloy between the substances which are homogenized.

('875 Patent, Col. 2, ll. 59-61.) Imagecube therefore asks me to construe the term homogenized to mean "forming an alloy."

Defendants argue that Lawton narrowed the definition of homogenization later in the specification. Discussing one embodiment of the invention, in which the components to be alloyed consist of polymers, Lawton stated:

The components may consist of polymers, which can be dispersed together and alloyed by the application of radiation ... *The homogenization to form an alloy between polymers is a non-polymerization interaction, and polymerization techniques* (free radical, condensation, and like mechanisms between monomers and/or oligomers and optionally initiators) *are excluded from the definition of "homogenization" as used herein.*

('875 Patent, Col. 3, ll. 38-45) (emphasis added). Shortly thereafter, discussing another embodiment of the invention in which the components to be alloyed consist of metals or ceramics, Lawton stated:

The components may consist of metal or ceramics which, when contacted with appropriate imaging radiation of appropriate intensity, form a metal or ceramic alloy having properties distinguishable from the properties of the components ... It will thus be understood that homogenization, in the case of metals and ceramics, is different from conventional sintering techniques, wherein powders are heated to essentially fuse or bond the particulates at their outermost points of contact into a solid mass. This also distinguishes the homogenization process of the invention from selective laser sintering (SLS) techniques. *Thus, it will be understood that "homogenization" for purposes of the invention requires intimate mixing of at least two components with resultant formation of an alloy between the components, which cannot be achieved using conventional sintering techniques.*

(*Id.,* Col. 3, ll. 51-55; Col. 4, ll.3-13) (emphasis added). Defendants therefore ask me to construe homogenization as a process that requires intimate mixing of at least two components with the resultant formation of an alloy between the components, but excluding polymerization techniques.

To a certain degree, the process of construing the meaning of a claim, *particularly* when the inventor has acted as his own lexicographer, is not unlike the process of interpreting a work of fiction such as a novel. Much has been written about the proper methodology for each. The difference between the two is that for the patents, there is no doctrine of deconstruction, so that, for some, the interpretation turns in large part on each reader. Yet the only permissible perspective is that of the person of ordinary skill in the art. Nonetheless, the process of determining what a person of ordinary skill in the art would understand the words to mean is not unlike the process of reaching accepted reading of works of poetry or novels: one marshals the evidence, including the language, context, rules of the genre and historical circumstances, to determine the meaning and scope of the text's language.

Just as in literature, where a novel may contain significant evidence to support more than one interpretation

of the language, so too in certain patents the process of claim construction will yield evidence (not necessarily of equal weight) supporting more than one possible meaning to the person of ordinary skill in the art. This is just such a case. The inventor, acting as his own lexicographer, offered a general definition of homogenization, which he subsequently limited in the specification. This leans in favor of a narrow construction of the term. Yet he limited his definition within a very specific context: discussions of some, but not all, embodiments of the invention. This suggests that the broader interpretation of the claim might be appropriate.

When competing interpretations of a claim exist there is often a best case for one construction over another. That is true here. Those of ordinary skill in the art reading the patent were, and are, entitled to rely on the definition set forth by the inventor, who-as all parties agree-acted as his own lexicographer. In using the words "polymerization techniques ... are excluded from the definition of 'homogenization' " and " 'homogenization' for the purposes of the invention requires intimate mixing of at least two components" the inventor provided an explicit signal as to the scope of his definition of homogenization. Plaintiff argues that to import these embodiment-specific limitations into the general definition of homogenization violates the general rule against limiting claims to particular embodiments: yet that argument rings hollow in light of the inventor's choice of words. Plaintiff also argues that the proposed limitations do not make sense out of context. This argument carries more weight, but is resolved by taking account of that context within the definition. For this reason, I construe homogenization as "the formation of an alloy between substances, and in the case of the homogenization of metals and ceramics requiring the intimate mixing of at least two components to form an alloy between the components, but excluding polymerization techniques when the substances to be homogenized consist of polymers."

B. Claim 51

The parties also dispute the meaning of independent claim 51. The disputed element of this claim involves the same process step at issue in claims 1, 25, 32 and 34: the exposure of component materials to imaging radiation. Unlike those claims, claim 51 does not contain an homogenization requirement. It reads as follows:

A method for forming an integral object from a composition in a layer-by-layer process wherein properties within said object are changed, said process comprising the steps: providing a layer of composition; *thermally changing the properties of the regions of the layer of composition by exposing the composition to imaging radiation* and repeating steps a-b with subsequent applications of composition and exposure ...; wherein the properties within said integral object are changed by varying the imaging radiation time, temperature, and/or intensity.

('875 Patent, Col. 20, ll. 24-40) (emphasis added).

Defendants argue that the words "thermally changing the properties of the regions of the layer of composition by exposing the composition to imaging radiation" must be construed as requiring the formation of an alloy between substances, *i.e.*, homogenization. They identify two aspects of the patent that purportedly mandate this construction. First, they claim that the specification does not teach a process of forming objects by means other than homogenization. Second, they claim that Lawton limited the scope of his invention to processes involving homogenization, as evidenced by language in the specification. FN1

FN1. Defendants also point to the prosecution history in support of their argument. In the original patent

application, each claim submitted by the inventor included a "homogenizing" step. In response to the Examiner's initial rejection of the claims, Lawton argued that the homogenizing step of his invention distinguished his claims from prior art. Those claims were eventually approved. When Lawton applied for a reissue patent, he included all of the claims from his original patent and twelve new claims, two of which (proposed independent claim 32 and dependent claim 33) omitted the "homogenizing" step. The Examiner initially rejected the newly proposed claims and rejected claim 32 on several grounds, including its anticipation by two prior art patents. In response, Lawton amended claim 32 by adding several limitations, including the step of "homogenizing the composition." Lawton asserted that the homogenizing step distinguished the claim from prior art and the Examiner allowed claim 32 to issue. With respect to dependent claim 33, the inventor responded to the initial rejection by converting the claim into independent form. That claim was issued as claim 51. Defendants argue that the Examiner's decision to allow the claim with little discussion, and the inclusion of a homogenization requirement in each of the other independent claims, is evidence that the claim implicitly includes an homogenization requirement; or alternatively, that the Examiner was hoodwinked into approving an independent claim unsupported by the specification.

Imagecube counters Defendants' proposed construction with the axiom that limitations from the specification cannot be imported onto a claim. *See, e.g.,* Arlington Indus., Inc. v. Bridgeport Fittings, Inc., 345 F.3d 1318, 1327 (Fed.Cir.2003). Nonetheless, there are many cases in which claims capable of being read broadly are instead held to narrower constructions based on statements in the specification. In Watts v. XL Sys., Inc., 232 F.3d 877, 883 (Fed.Cir.2000), an invention-described broadly in the claims-was limited to particular structures identified in the specification because the specification stated that "the present invention utilizes [the structures]." In Kinik Co. v. ITC, 362 F.3d 1359 (Fed.Cir.2004), the Federal Circuit ruled that a method claim for the manufacture of abrasive articles, whose plain language called for the use of a mixture of liquid binder and powdered material, was limited to mixtures containing a larger volume of liquid binder than powered material. The court limited the broader claim language because of language in the specification stating that volume of the liquid binder "substantially exceeds" the volume of the powder. Id. at 1364 (noting that the limitation was also found in the summary of the invention and was quantified in a detailed description of the embodiments). *See also* Toro Co. v. White Consol. Indus. Inc., 199 F.3d 1295, 1301 (Fed.Cir.1999) (in which a claim was construed to encompass a particular structure when the specification described a particular structure as "important to the invention").

Those cases began, however, as all cases must: with the language of the claims. *See, e.g.,* Watts, 232 F.3d at 882 (holding that the disputed claim language was not clear on its face before narrowing the claim language based on limitations in the specification). In this case, Defendants have not shown that the language of claim 51 should be given anything other than its ordinary meaning to one skilled in the art. Given the parties' agreement that Lawton acted as his own lexicographer with respect to the term homogenization, I am hard-pressed to believe that one skilled in the art would construe the language of claim 51 as implicitly requiring homogenization.

The structure of Defendants' argument belies the nature of their objection to this claim. Defendants compare the words of claim 51 ("thermally changing the properties of regions of the layer of composition") with the words of the other independent claims, such as claim 34 ("thermally homogenizing the dispersion by applying imagewise radiation"). They ask me to find that homogenization is implicitly incorporated by claim 51, notwithstanding its omission from the claim language, and they do so without identifying any language in the claim that would be ambiguous to one of ordinary skill in the art. Though Defendants raise a reasonable argument when they suggest that processes other than homogenization are not enabled by the

specification,FN2 that objection is properly raised in the context of the '875 patent's validity.

FN2. Throughout the specification, the invention is discussed in terms of, or with reference to, homogenization. For example, the "Field of the Invention" states: "The invention relates to a process of making models ... using an imagewise exposure of a dispersion of components to radiation. The process is based on homogenizing the components of the dispersion to form an alloy which have properties different from the properties of the dispersion or its individual components." ('875 Patent, Col. 1, ll. 10-16.) Similarly, the "Summary of the Invention" states that "[t]he invention comprises a process ... comprising the steps of ... homogenizing the dispersion." (*Id*. at Col. 2, ll. 9-15 .) Within the specification the inventor distinguishes the "homogenization process of the invention" from the prior art of selective laser sintering, another process for manufacturing parts using layer-by-layer solid imaging. (*Id*. at Col. 4, ll. 9-10). Nonetheless, the language of the specification does not exclude the process outlined in claim 51, and for the reasons discussed herein, I find no reason to read the homogenization requirement into the ordinary meaning of the claim.

For these reasons, I find that the intrinsic evidence does not support a construction that would narrow claim 51 to require homogenization.

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