

United States District Court,  
N.D. Indiana, South Bend Division.

**HOWMEDICA OSTEONICS CORP,**  
Plaintiff.

v.  
**TRANQUIL PROSPECTS, LTD,**  
Defendant.

No. 3:02cv0321AS

**Sept. 25, 2003.**

Action was brought to determine whether patents for prosthetic devices used in hip replacement procedures were valid and being infringed. Construing claims, the District Court, Allen Sharp, J., held that: (1) "coated stem" in first patent did not include uncoated stem that became coated with bone cement upon insertion into bone canal; (2) "medullary canal" did not extend beyond long bone cavity's thick wall of compact bone; and (3) use of undefined phrase "transverse sectional dimension" rendered patents invalid for indefiniteness.

Claims construed.

4,636,214, 5,222,985. Invalid in Part.

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Joseph A. Gear, George C. Summerfield, Gregory M. Jordan, Chicago, IL, Philip E. Kalamaros, Lyle R. Hardman, South Bend, IN, for Defendant.

### ***MEMORANDUM AND ORDER***

**ALLEN SHARP, District Judge.**

### **INTRODUCTION**

This case is before the Court on issues relating to claim construction. A claim construction hearing was held South Bend, Indiana, on August 19, 2003.

Defendant, TRANQUIL PROSPECTS, LTD. ("TRANQUIL") is the owner by assignment of U.S. Patent Nos. 5,222,985 and 4,636,214 (" '985" and the " '214" patents). TRANQUIL's Brief at 1. Both patents protect prosthetic devices used in hip replacement procedures. Plaintiff, HOWMEDICA OSTEONICS CORP. ("HOWMEDICA") filed the instant suit alleging non-infringement and invalidity of the patents in suit. TRANQUIL counterclaimed that HOWMEDICA infringed the patents in suit. Since prior claim construction is a threshold issue for determining validity and infringement, *W.L. Gore & Assoc. v. Garlock, Inc.*, 842 F.2d 1275, 1279 (Fed.Cir.1988), the following is the Court's construction of the claims in dispute. For simplicity, the Court will address the relevant facts in conjunction with its analysis.

## ANALYSIS

[1] District court judges are responsible for patent interpretation, especially claim construction, which is interpretation of words in patent's claims. *Markman v. Westview Inst.*, 517 U.S. 370, 388, 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996) (" *Markman II* "). Only the claims in dispute need to be construed. *Vivid Techs. v. American Science & Eng'g*, 200 F.3d 795, 803 (Fed.Cir.1999). The purpose of construing the claims of a patent is to determine the meaning and scope of the patent claims that Plaintiff is asserting. *Markman v. Westview Inst.*, 52 F.3d 967, 979 (Fed.Cir.1995) ( "*Markman I* ").

[2] [3] [4] [5] Federal statutes require that each patent conclude with one or more claims that particularly point out and distinctly claim the patented invention and define the "metes and bounds" of the patented invention. 35 U.S.C. s. 112, para. 2; *Burke v. Bruno Indep. Living Aids*, 183 F.3d 1334, 1340 (Fed.Cir.1999). Claim construction centers on the words actually used in the claims. *Interactive Gift Express v. Compuserve*, 231 F.3d 859, 865 (Fed.Cir.2000). Claim construction "begins and ends" with the actual words of the claims. *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1248 (Fed.Cir.1998). It is the claim, not the specifications, that define the scope of the patent and accordingly, the patentee's rights. *York Products, Inc. v. Central Tractor Farm & Family Ctr.*, 99 F.3d 1568, 1572 (Fed.Cir.1996); *Markman*, 52 F.3d at 970. Claims must be read in light of the specifications. *Markman* at 979. Claim construction methodology involves a preference for certain sources of meaning over other sources of meaning. *Interactive Gift Express v. Compuserve*, 231 F.3d 859, 865 (Fed.Cir.2000). Where the applicant is a lexicographer, the definition he selects controls. *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1249 (Fed.Cir.1998).

[6] When a patent applicant acts as lexicographer, the applicant has latitude in using or fashioning words to serve their needs in describing the patent. *See generally*, *Sextant Avionique, S.A. v. Analog Devices*, 172 F.3d 817, 825 (Fed.Cir.1999); *Augustine Med. v. Gaymar Indus.*, 181 F.3d 1291, 1298 (Fed.Cir.1999). The patent applicant is limited by the rule that the special meaning must appear with reasonable clarity and precision in the patent or its prosecution history. *Hockerson-Halberstadt v. Avia Group Int'l*, 222 F.3d 951, 955 (Fed.Cir.2000); *Northern Telecom Ltd. v. Samsung Elecs. Co.*, 215 F.3d 1281, 1295 (Fed.Cir.2000).

If the claim language's meaning is reasonably clear and precise, the court's role in claim construction is to pronounce the meaning of the acquired meaning of the word used in the claim. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357 (Fed.Cir.1999), *cert. denied*, 529 U.S. 1037, 120 S.Ct. 1531, 146 L.Ed.2d 346 (2000) (test for determining whether meaning is reasonably clear and precise is whether the patent or its prosecution history puts one of ordinary skill in the relevant art, or a reasonable competitor, on notice that the applicant intended to so specially define the claim language). *See also*, *Hockerson-Halberstadt*, 183 F.3d at 1375; *Multiform Desiccants v. Medzam, Ltd.*, 133 F.3d 1473, 1477-78 (Fed.Cir.1998); *Interactive Gift Express*, 231 F.3d at 867.

[7] If the applicant is not a lexicographer, the Court must determine the acquired meaning of the claim language by consulting other sources. *IMS Tech. v. Haas Automation*, 206 F.3d 1422, 1433 (Fed.Cir.2000). There is a presumption that a word in a claim has its full ordinary or accustomed meaning. *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1362-63 (Fed.Cir.1999); *Johnson Worldwide Assoc. v. Zebco Corp.*, 175 F.3d 985, 989 (Fed.Cir.1999).

[8] A word may acquire meaning from ordinary use in the English language, or may acquire meaning from customary usage by those of ordinary skill in the relevant art. *National Recovery Techs. v. Magnetic Separation Sys.*, 166 F.3d 1190, 1195 (Fed.Cir.1999); *Arthur A. Collins v. Northern Telecom Ltd.*, 216 F.3d 1042, 1044-45 (Fed.Cir.2000). The Court also must also consider particular use FN1 of words in the patent ( *Toro Co. v. White Consol. Indus.*, 199 F.3d 1295, 1301 (Fed.Cir.1999)); words used in the prosecution history of the patent FN2 ( *Id.* at 1299); and compare the acquired meaning of the claim language to the particular use of the word in the patent ( *Cortland Line Co. v. Orvis Co.*, 203 F.3d 1351, 1356-57

(Fed.Cir.2000)).

FN1. Particular uses of language in the intrinsic evidence are the particular uses in the claim containing the language at issue, in the other claims in the patent at issue, use within the rest of the patent, and use within prosecution history. *Zodiac Pool Care v. Hoffinger Indus.*, 206 F.3d 1408, 1414 (Fed.Cir.2000); *Pitney Bowes*, 182 F.3d at 1308-09.

FN2. The patent and its prosecution history is "intrinsic" evidence. *Zodiac Pool Care*, 206 F.3d at 1414.

[9] If the particular use of claim language in the totality of the intrinsic evidence is insufficient to determine the acquired meaning of that language, the court can rely on extrinsic evidence other than the patent and its prosecution history. *Key Pharms.*, 161 F.3d at 716; *Digital Biometrics*, 149 F.3d at 1344. The Federal Circuit's recent decisions have created certain guideposts to assist district courts facing claim construction issues, which are summarized with citations in Herbert F. Schwartz' helpful text on patent law. *See* Schwartz, Herbert F. *Patent Law and Practice*.3d Ed. BNA Books 2001 s. 5.I.A.3.d. pp. 113-114.

[10] [11] In performing claim construction, the Court first considers intrinsic evidence (the claims, specifications and prosecution history), and this alone may resolve any ambiguity in a disputed claim term. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed.Cir.1996). The Court may consult extrinsic evidence, including technical treatises, to assist in claim construction. *Id.* at 1584. Here, it does not appear that TRANQUIL acted as its own lexicographer in creating its claim, so the Court will seek to apply the ordinary meaning the claim language in dispute. *See Toro Co. v. White Consol. Indus.*, 199 F.3d 1295, 1299 (Fed.Cir.1999). Claim language principally controls the meaning of the claim. *Envirco Corp. v. Clestra Cleanroom, Inc.*, 209 F.3d 1360, 1365 (Fed.Cir.2000). This Court is mindful of the Federal Circuit's preference for narrowing a claim construction to avoid invalidating the claim for indefiniteness. *Lockformer Co. v. PPG Indus.*, 264 F.Supp.2d 622, 626 (N.D.Ill.2003) (citations omitted). This Court is cautious not to set claim limits where none have been set, or vice-versa. *Lockformer*, 2001 WL 940555, (N.D.Ill.2001). Having set forth these guidelines, the Court now construes the following disputed claims:

### **1. Coated vs. Uncoated Stem**

[12] The '985 patent protects a coated-stem prosthesis. HOWMEDICA at 2-3. The '214 patent protects a system that includes a "stem". *Id.* at 2, 4. The claim language of '214 does not call for a "coated" stem. Instead, the '214 requires that bone cement be inserted in a bone canal prior to the insertion of a stem. Whether the '985 patent's requirement of a coated stem includes an uncoated stem that becomes coated with bone cement (as in '214 patent) is one issue this Court must construe. At the hearing, TRANQUIL argued that the claim language of '985 patent was broad enough to cover stems that are coated prior to being inserted (required by the '985 patent) and those that are uncoated prior to insertion ('214 patent), but because of the presence of bone cement, become coated after implantation. The coating required in the '985 patent is described as a porous, compressible, tissue-ingrowth-promoting porous coating. HOWMEDICA at 3, TRANQUIL at 15. In fact, "the patentee informed the [Patent and Trade Office] that 'all of the independent claims now specify that the cement *or* deformable material...' " (Emphasis supplied.) Particularly in light of this representation to the PTO, the Court agrees that there is no support for TRANQUIL's position that the cement liner described in the '214 patent is equivalent to the "coating material" described in '985. In this regard, the claims are construed such that the '985 patent calls for a coated stem, and the '214 patent calls for an uncoated stem.

### **2. Coating Material Being Of Generally Uniform Thickness**

[13] Having determined that '985 is the only patent calling for a coated stem, the Court must construe what

is meant by "said layer of coating material being of a generally uniform predetermined thickness along the entire length of the stem", as it appears in claim one of the '985 patent. TRANQUIL takes the position that the plain meaning of this limitation is clear and no construction is required by the Court. TRANQUIL at 14-15. TRANQUIL contends that the coating material is to surround the entire stem, including its distal and proximate ends. TRANQUIL at 15, citing U.S. Pat. Ser. No. 788,421, Amendment Under 37 CFR 1.116 (May 8, 1986) (Ex. N) at 5. TRANQUIL notes that dependent claim six of the '985 patent uses as an example a coating two (2) millimeters thick around the stem. TRANQUIL at 16. In sum, TRANQUIL's position is that the ordinary meaning of the phrase should control, and the Court should construe the phrase to mean a coating of a predetermined, yet constant thickness that surround the entire stem, including the ends, to ensure "a generally uniform press fit between the coating material and the surrounding bone." Id.

HOWMEDICA takes issue with TRANQUIL's use of this phrase because TRANQUIL included bone cement in its meaning of coating for the stem. HOWMEDICA at 22-24. Having determined that the use of "coated stem" in the '985 patent cannot encompass the (uncoated) stem of the '214 patent, the Court hereby construes the phrase "said layer of coating material being of a generally uniform predetermined thickness along the entire length of the stem" to mean that the stem referenced in the '985 patent is completely covered with the coating described in the '985 patent. The ordinary meaning of this phrase shall control.

### ***3. Medullary Canal***

[14] Much attention in the briefs and at the hearing was directed toward the meaning of "medullary canal"- in particular, its scope. For both patents, the medullary canal (also known as a marrow canal) is a portion of the femur in which a stem socket is placed as part of installing the prosthetic device. Id. at 3-4. In the medullary canal a stem socket is inserted, and into this stem socket is inserted an elongated stem-coated or uncoated.

The claim language of the '985 patent defines the medullary canal by the cortical bone of the metaphyseal and epiphyseal segments of the long bone. The claim language of the '214 patent defines the medullary canal by the cortex of a long bone. HOWMEDICA claims that the established, ordinary meaning of "medullary canal" is different from the way it is described and used by the patents in suit. HOWMEDICA at 13. Unfortunately, neither party's definitions and arguments (including the patent language itself) offered the clarity desired by the Court with regard to the scope of the medullary canal. Therefore, the Court consulted a technical treatise by Ross, Rommell and Kaye. The following useful information was gleaned:

A typical long bone (such as a femur) contains a shaft called the diaphysis. The diaphysis contains a large marrow or medullary cavity. This cavity is surrounded by a thick-walled tube of compact bone. The inside of the compact bone may itself be lined with spongy bone. At the ends (the "epiphyses") of the long bone, there is additional spongy bone and an outer lining of compact bone. At the very ends of the long bone (at the "diaphysis") is the metaphysis, which is the "flared" part of the bone.

Ross, Michael H., Lynn J. Rommell & Gordon I. Kaye. *Histology: A Text And Atlas*. 3d. ed. Williams & Wilkins 1995, p. 153. Attached to this Opinion as "Exhibit A" is a depiction of this explanation.

As to the '985 patent, the Court construes the claim language "medullary canal defined by cortical bone of the metaphyseal and epiphyseal segments of said long bone" as analogous with the description of the long bone above. Based upon Ross, et al.'s definition, and TRANQUIL's claim language, for the purpose of the '985 patent, the medullary canal does not extend beyond the thick wall of the compact bone (which may or may not be lined with spongy bone). Since the '214 patent's claim language does not include the "as defined" qualifications, no further construction is needed of "medullary canal" and for purposes of the '214 patent as well, the medullary canal does not extend beyond the thick wall of the compact bone (which may or may not be lined with spongy bone).

#### ***4. Transverse Sectional Dimensions***

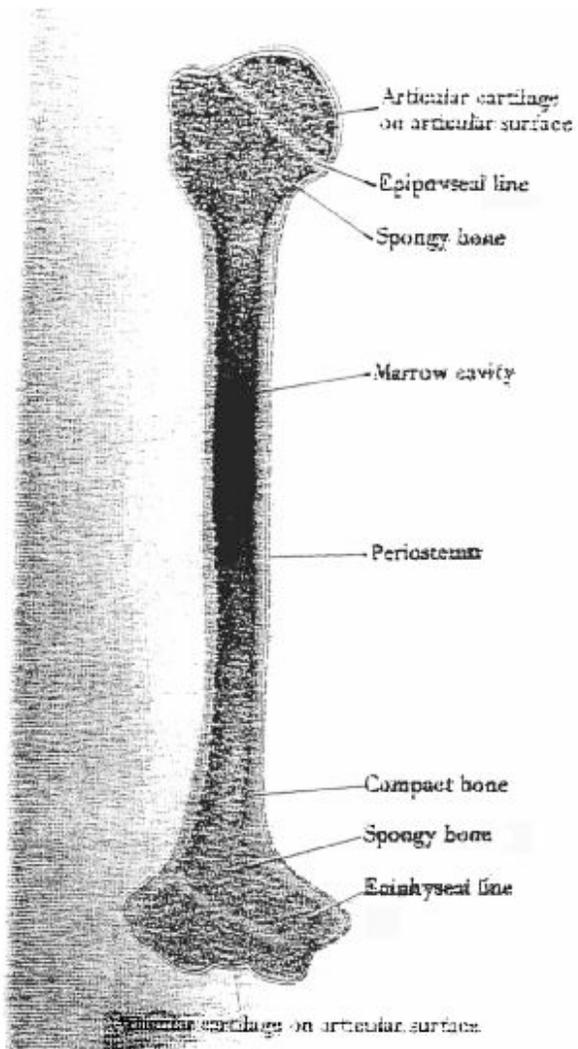
[15] The '985 patent calls for "the coated stem to have transverse sectional dimension constituting at least around seventy percent (70%) of the transverse sectional dimensions of said medullary canal..." The '214 patent calls for "the insertion of bone cement that creates a liner constituting at least around seventy percent (70%) of the corresponding transverse sectional dimensions of the long bone... and at least around ninety percent (90%) of the corresponding transverse sectional dimensions of the long bone..." TRANQUIL requires that the "transverse sectional dimensions" be "measured in a two-dimensional or surface area manner." HOWMEDICA at 19. TRANQUIL has provided several formulae to be used in performing the measurements to determine whether the desired percentages have been achieved. TRANQUIL at 12, 14.

TRANQUIL argues that the phrase, as it is used at least three times throughout the disputed claims, speaks for itself and no construction is needed by the Court. It cites to the purported importance of performing such a calculation. TRANQUIL at 11-12. HOWMEDICA challenges TRANQUIL's claims as being invalid under 35 U.S.C. s. 112 because the phrase is not (sufficiently) defined in the patents (with regard to where to measure these dimensions), there is no direction as to the explicit measurements required to determine whether the "transverse sectional dimensions" constitute at least around seventy percent (70%) of the corresponding transverse sectional dimensions of the long bone or at least around ninety percent (90%) of the corresponding transverse sectional dimensions of the long bone, and because there is no proof to support the conclusion that TRANQUIL's proffered formulae were appropriate to use in performing the calculations. After careful examination, the Court is unable to construe the phrase "transverse sectional dimensions", even when attempting to give these words their ordinary meaning. ("A court is to give the claim terms their ordinary meaning, unless the inventor has made it clear in the patent or file history that the term has a special meaning." Vitronics, 90 F.3d at 1582; Infigen, Inc. v. Advanced Cell Technology, Inc., 65 F.Supp.2d 967, 973 (W.D.Wis.1999)). The Court agrees with HOWMEDICA that, as used in the claims, one of ordinary skill in the relevant art would not be on notice that TRANQUIL intended a certain meaning for this phrase. In this regard, the use of "transverse sectional dimensions" in the disputed claims renders those claims invalid pursuant to 35 U.S.C. s. 112.

#### **CONCLUSION**

The Court thus construes the disputed claims as stated herein. Each party will bear its own costs. **IT IS SO ORDERED.**

#### **EXHIBIT "A"**



Ross, Michael H., Lynn J. Rommell & Gordon I. Kaye. Histology: A Text And Atlas. 3d. ed. Williams & Wilkins 1995, p. 153.

EXHIBIT "A"

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