

United States District Court,  
D. Utah, Central Division.

**GENERAL ELECTRIC COMPANY,**  
Plaintiff.

v.

**U.S. SYNTHETIC CORPORATION,**  
Defendant.

Civ. No. 89-C-294W

**Oct. 12, 1990.**

Edward F. MULLOWNEY, John F. Ward, Fish & Neave, New York City, Andrew C. Hess, Salt Lake City, Utah, for plaintiff.

Larry R. White, David B. Erickson, Blake T. Ostler, Salt Lake City, Utah, for defendant.

## **MEMORANDUM DECISION AND ORDER**

**WINDER, District Judge.**

This matter is before the court on defendant's motion for summary judgment on grounds that plaintiff's reissued patent is invalid because it broadened the product claims of the original patent in violation of 35 U.S.C. s. 251. A hearing on this motion was held August 29, 1990. Plaintiff, General Electric Co., was represented by Edward F. MULLOWNEY, John F. Ward, Andrew C. Hess and Gary L. Loser. Defendant, U.S. Synthetic Corp., was represented by Larry R. White and Blake T. Ostler. Before the hearing, the court considered carefully the memoranda submitted by the parties. After taking the matter under advisement, the court has further considered the law and facts and now renders the following memorandum decision and order.

### ***BACKGROUND***

#### **A. *The '623 Patent***

This case concerns plaintiff's patent on a drilling and cutting tool known in the industry as a diamond compact. In 1973, plaintiff was granted U.S. Patent 3,745,623 (the " '623 Patent") on the diamond compact and the process for making the compact. The '623 Patent contained 18 claims describing the diamond compact and the manufacturing process. A diamond compact made in accordance with the '623 Patent has a layer of diamond crystals bonded to a cemented carbide support. The diamond layer forms the cutting edge of the compact.

The diamond compact is formed by pressing together, under extremely high temperature and pressure, a preformed cemented carbide body or a layer of carbide molding powder (which forms the cemented carbide

support) and a layer of diamond powder. Carbide molding powder is a mixture of carbide material (e.g., tungsten carbide, titanium carbide, tantalum carbide and mixtures thereof) and a metal, which acts as the "cement" to sinter and bond the carbide together. Metals used for this purpose include cobalt, nickel, iron and mixtures thereof.

## ***B. The Reissue Prosecution***

In 1981, plaintiff filed an application for reissue of the '623 Patent. In support of its application, plaintiff relied on information and newly discovered prior art that DeBeers Consolidated Mines Limited ("DeBeers") alleged would invalidate the '623 Patent in a previous litigation. Plaintiff also contended the '623 Patent was wholly or partly inoperative or invalid because of a defective specification and indefinite language in the product claims. In 1982, DeBeers opposed the reissue application arguing, among other things, that the product claims were inoperative in two respects and thus invalid under 35 U.S.C. s. 112.

DeBeers first argued that the claim language requiring the diamond layer and cemented carbide support to be "joined at the interface, said interface consisting solely of cemented carbide and diamond crystals" excluded the metal or "cement" component at the interface. Because the metal cement is needed at the interface to hold the compact together, DeBeers argued that the claim described something that could not be produced. *See* Affidavit of John F. Ward ("Ward Aff."), Exh. D at 83-84.

In rejecting this argument, the United States Patent and Trademark Office ("PTO") Examiner found that the "consisting solely of" language was added to the claims during the prosecution for '623 Patent to "avoid known prior art" and "to exclude from the interface other elements such as brazing material or solder and clearly not to exclude the constituent elements of the claimed composition." *Id.*, Exh. F para. 51-53.

DeBeer's second inoperability argument was directed at claim language specifying that the bond between the cemented carbide and diamond layer be "stronger than the tensile strength of the diamond." DeBeers argued that this language was inoperative because General Electric had used fracture tests to evaluate the tensile strength of the interface. *See id.*, Exh. D at 84.

The PTO Examiner likewise rejected this argument, noting that the patent's specification included an estimate of the tensile strength of the diamond mass, but that the only tests General Electric conducted were fracture tests. *See id.*, Exh. F para. 54-56.

To correct what he termed as "misdescriptive" language, the PTO Examiner suggested that the claim language in claim paragraphs 1(c) and 13 be amended as follows:

Claim para. 1(c):

... said diamond crystalline material and said cemented carbide being joined at an interface, said interface consisting solely of cemented carbide, or its elements and diamond crystals, the bond there between being stronger than the tensile fracture strength of the diamond. FN1

FN1. Additions indicated by underline; deletions indicated by strikeout.

Claim para. 13:

... said sintered carbide mass being joined along *an* interface area consisting solely of cemented carbide *or its elements* and diamond, the bond therebetween being stronger than the tensile fracture strength of diamond.

Id. para. 57.

### ***C. The New Protest Proceeding***

General Electric consented to the PTO Examiner's suggested amendments to the claim language, *See id.*, Exh. G. DeBeers then filed a New Protest of the granting of the reissued patent pursuant to 37 C.F.R. s. 1.291. Among DeBeers' grounds for protest were two arguments that defendant now makes in support of the instant motion-that inclusion of "or its elements" and substitution of "fracture" for "tensile" broadens the claims of the original patent in violation of 35 U.S.C. s. 251. FN2 *See id.*, Exh. H at 10, 15.

FN2. 35 U.S.C. s. 251 states in relevant part:

Whenever any patent is, through error without any deceptive intention, deemed wholly or partly inoperative or invalid, by reason of a defective specification or drawing, or by reason of the patentee claiming more or less than he had a right to claim in the patent, the Commissioner shall, on the surrender of such patent and the payment of the fee required by law, reissue the patent for the invention disclosed in the original patent, and in accordance with a new and amended application, for the unexpired part of the term of the original patent. No new matter shall be introduced into the application for reissue.

\* \* \*

No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent.

35 U.S.C. s. 251.

The PTO Examiner rejected these arguments in a report dated April 3, 1984. Regarding the addition of "or its elements," the PTO Examiner concluded:

E. Issue No. 2 raised by DEBID [DeBeers] of impermissible [sic] broadening of the claims is noted but not concurred with because as pointed out by the Examiner in Paper No. 14 at paragraph Nos. 52 and 53 the record and specification clearly show that it was never applicants intent to exclude the very constituent elements of the insert from any boundary or interface between the cemented carbide (which contains cobalts as a bonding agent) and the diamond crystals (which are bonded to each other by the presence of the cobalt as a catalyst which migrates from the cemented carbide as disclosed at column 5, lines 3-7 of the specification). The Examiner concurs with GE's position as set forth on pages 8-10 with respect to this issue.

*Id.*, Exh. J at 3-4. With respect to the substitution of "fracture" for "tensile," the PTO Examiner concluded:

F. DEBID's position with respect to issue Nos. 3 and 4 is clearly in error. As pointed out by the Examiner in

Paper No. 14 at paragraph 55 clear support for the terms "fracture" is found in original specification at column 8, lines 50-55 and (as pointed out by GE in Paper No. 24 at page 11) at column 5, lines 24-42 of the specification. The Examiner concurs with GE's position with respect to these issues as set forth in Paper 24, pages 10-12.

*Id.* at 4.

On March 24, 1987, the '623 Patent, amended as described above, was reissued as U.S. Patent Re. 32,380 (the " '380 Patent").

#### ***D. The Dispute Between the Parties***

In 1989, plaintiff filed the instant action, claiming defendant infringed the '380 patent. Defendant's counterclaim seeks declaratory judgment on grounds the '380 Patent is invalid, void and unenforceable because, among other things, it enlarges the scope of the '623 Patent's claims in violation of 35 U.S.C. s. 251.

Specifically, defendant argues that the "consisting solely of" language in Claims 1 and 13 restricts those claims to cemented carbide and nothing else. Adding the language "or its elements," defendant argues, broadens the claim to include not only the diamond and cemented carbide, but also pure layers of its elements, tungsten, carbon and cobalts with no cemented carbide at the interface.

Further, defendant argues that substitution of the word "fracture" for "tensile" in Claims 1 and 13 of the '380 Patent broadened the claims because "fracture" includes *all* forces that may cause the diamond compact to fall apart rather than merely the specific pulling forces defined by the term "tensile."

In response, plaintiff contends the language "consisting solely of" means that the interface excludes materials such as brazing or solder, but does not exclude the metal that bonds the cemented carbide and diamond layers together. Plaintiff argues that the "or its elements" language does not broaden the claim, but rather more accurately describes the fact that metal cement, an element of cemented carbide, forms the bond at the interface.

Regarding the substitution of "fracture" for "tensile," plaintiff argues that "fracture" better describes the type of test used to measure bond strength in the diamond compact. Plaintiff contends that to a person skilled in the art of brittle composite materials, fracture strength, in the context of the '380 Patent, means the tensile strength or tensile stress at which a diamond compact will fracture.

#### ***STANDARD OF REVIEW***

Summary judgment shall be granted when there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law. Fed.R.Civ.P. 56(c). A moving party may demonstrate that no material facts are disputed through pleadings, depositions, answers to interrogatories, admissions on file and affidavits. The moving party must show "there is an absence of evidence to support the nonmoving party's case." *Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986).

In determining whether this burden has been met, "the judge must view the evidence presented through the prism of the substantive evidentiary burden" to be used at trial. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 254 (1986). The '380 Patent at issue in this case carries a statutory presumption of validity under 28

U.S.C. s. 282, which can be overcome only by proving facts supported by clear and convincing evidence. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1467 (Fed.Cir.1990); *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1235 (Fed.Cir.1989). Thus, defendant must show by clear and convincing evidence that plaintiff's reissued patent is invalid.

Once the moving party has carried its burden, Rule 56(e) "requires the nonmoving party to go beyond the pleadings and by ... affidavits, or by the 'depositions, answers to interrogatories, and admissions on file,' designate 'specific facts showing that there is a genuine issue for trial.'" *Celotex Corp.*, 477 U.S. at 324; *Abercrombie v. City of Catoosa*, 896 F.2d 1228, 1230 (10th Cir.1990). FN3 The non-moving party must "make a showing sufficient to establish the existence of an element essential to that party's case, and on which that party will bear the burden of proof at trial." *Celotex Corp.*, 477 U.S. at 322.

FN3. The summary judgment motion may be "opposed by any of the kinds of evidentiary materials listed in Rule 56(c), except the mere pleadings themselves." *Celotex Corp. v. Catrett*, 477 U.S. 317, 324 (1986).

In considering a summary judgment motion, this court does not weigh the evidence but instead inquires whether "there is sufficient evidence favoring the nonmoving party for a jury to return a verdict for that party." *Anderson*, 477 at 249. FN4 To determine if sufficient evidence exists "the inferences to be drawn from the underlying facts [in the admissible record] ... must be viewed in the light most favorable to the [nonmoving] party." *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986) (quoting *United States v. Diebold*, 36 U.S. 654, 655 (1962)). Finally, any admissible facts asserted by the party opposing the motion that are not controverted are regarded as true.

FN4. "The mere existence of a scintilla of evidence in support of the [nonmoving party's] position will be insufficient." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 252 (1986).

## ***DISCUSSION***

Claim scope or construction is a question of law that requires consideration of the specification, the prosecution history, the other claims and, where appropriate, expert testimony. *Whittaker Corp. v. UNR Indus. Inc.*, 911 F.2d 709, 711-12 (Fed.Cir.1990). Claim interpretation may depend upon conflicting evidentiary material that can give rise to a genuine factual dispute. Resolution of any such factual dispute is required for proper claim interpretation. *C.R. Bard, Inc. v. Advanced Cardiovascular Systems, Inc.*, 911 F.2d 670, 673 (Fed.Cir.1990). The United States Court of Appeals for the Federal Circuit summarized these principles of claim construction in *Palumbo v. Don-Joy Co.*, 762 F.2d 969, 974 (Fed.Cir.1985):

Construction of a claim, a question of law, is necessary to define the metes and bounds of the protection afforded by the claims. If the language of a claim is not disputed, then the scope of the claim may be construed as a matter of law. But when the meaning of a term in the claim is disputed and extrinsic evidence is necessary to explain that term, then an underlying factual question arises, and construction of the claim should be left to the trier or jury under appropriate instruction.

*Palumbo*, 762 F.2d at 974 (citation omitted).

Furthermore, claims generally are construed so as to sustain their validity, if possible. *Whittaker Corp.*, 911

F.2d at 712. A challenger's burden usually is made more difficult, as an evidentiary matter, when an invalidity argument previously has been considered and rejected during a reissue proceeding. *Cf.* Kaufman Co., Inc. v. Lantech, Inc., 807 F.2d 970, 973-74 (Fed.Cir.1986) (challenger's burden is made more difficult if, during reissue proceeding, Patent Examiner considers prior art not considered during original prosecution).

Plaintiff argues that genuine issues of material fact exist that preclude summary judgment. FN5 Applying the legal principles set forth above, and viewing the evidence in a light most favorable to plaintiff, the court agrees that genuine issues of material fact exist. Defendant contends that the claim terms have commonly accepted meanings by those skilled in the art, and that courts have construed the terms consistent with such meanings as a matter of law. FN6 Claim terms, however, are not interpreted in a vacuum. As the Federal Circuit stated in *Whittaker Corp.*, claim language must be interpreted in the context of the other claims, the prosecution history, specifications and the testimony of the experts where appropriate. Failure to consider these interpretive sources may result in erroneous claim interpretation. *See, e.g.*, *Whittaker Corp.*, 911 F.2d at 712 (reversing grant of summary judgment on invalidity claim because trial court failed to analyze claim language in light of other claims, prosecution history, specification and expert testimony).

FN5. Specifically, plaintiff states:

Complex technological issues of fact regarding the inner structure of these [diamond] compacts and their mechanical fracture and strength characteristics are raised by U.S. Synthetic's motion. These issues cannot be resolved on the basis of affidavits, arguments by counsel and by referring to a dictionary as U.S. Synthetic proposes. Live testimony of technical experts, which has been subjected to thorough cross-examination, is required.

General Electric's Memorandum in Opposition at 3 (footnote omitted).

FN6. The cases cited by U.S. Synthetic in support of this argument are inapposite. *Berenter v. Quigg*, 737 F.Supp. 5 (D.D.C.1988) is representative of these cases. In *Berenter*, the claim at issue specified that pesticide be used against cockroaches in an area "consisting of said first habitat." The court found that the term "consisting of" prohibited use of pesticide in habitats other than the "first habitat." Here, the question is whether a *constituent element* of a material recited in a claim is excluded by use of the term "consisting solely of."

Construing the claim terms in such context, the court finds that genuine issues of material fact underlie the question whether plaintiff impermissibly broadened the claims of the '623 Patent by adding "or its elements" and substituting "fracture" for "tensile" in the claims of the reissued patent. These issues of fact relate to the structure of the diamond compact and its fracture characteristics. This conclusion is supported by a brief review of the evidence regarding the disputed claim terms.

#### ***A. The Addition of "Or its Elements"***

Defendant offers the testimony of H. Tracy Hall, an expert in the field of physical chemistry, who testifies that "consisting solely of"-as used in the '623 and '380 Patents-is a closed-ended term meaning that nothing else may be included except what follows the term. Affidavit of H. Tracy Hall ("Hall Aff.") para. 13. The addition of the words "or its elements" in the '380 Patent, Mr. Hall testifies, means that the interface now

may consist of the "elements" of cemented carbide in place of the cemented carbide itself. For instance, Mr. Hall testifies, the interface may consist of cobalt and diamond crystals alone or diamond in combination with various elements, such as tungsten, tantalum, titanium, nickel or iron. Hall Aff. para. 14.

Plaintiff's expert, Harold P. Bovenkerk, testifies that in his opinion, the addition of "or its elements" in the '380 Patent adds nothing to the original claims contained in the '623 Patent, but instead references the same materials covered by the original claim-carbide particles and the metal, which are elements of cemented carbide. Affidavit of Harold P. Bovenkerk ("Bovenkerk Aff.") para. 16.

Mr. Bovenkerk testifies that the original claim language-without the addition of "or its elements"-necessarily includes the thin layer of metal that bonds the two parts of the diamond compact together. Indeed, Mr. Bovenkerk states this is the only logical construction because it would be "physically impossible to make a compact without the layer being there." Bovenkerk Aff. para. 15.

Drawing all reasonable inferences in plaintiff's favor, as this court must, Mr. Bovenkerk's opinion finds support in the patent specifications, which state that the interface between the diamond crystals and the cemented carbide support "obviates any need for the interposition of any bonding layer therebetween, as for example, would result from brazing or soldering." '623 Patent, col. 5, lines 27-29; '380 Patent, col. 5, lines 30-32. The specifications further describe the interface as the "bond between the diamond material and the cemented carbide *components* ..." 623 Patent, col. 9, lines 6-7; '380 Patent, col. 9, lines 4-5.

In addition, Mr. Bovenkerk's opinion finds support in the prosecution history. The PTO Examiner, after a lengthy and hard fought reissue proceeding, concluded that inclusion of "or its elements" did not broaden the claims of the original patent. *See Ward Aff.*, Exh. J at 3-4. Statements made during reissue are relevant prosecution history when interpreting claims. *E.I. Du Pont De Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1439 (Fed.Cir.), *cert. denied*, 488 U.S. 986 (1988). The PTO Examiner's opinion, although certainly not conclusive on the issue, is entitled to deference by this court. *Datascop Corp. v. SMEC, Inc.*, 776 F.2d 320, 327 (Fed.Cir.1985) (opinion by Markey, C.J.).

In sum, the expert opinion of Mr. Bovenkerk, together with the specifications and prosecution history, raise a genuine issue of material fact regarding the composition of the diamond interface, on which turns the issue whether the addition of "or its elements" broadened the claims of the '623 Patent.

### ***B. Substitution of "Fracture Strength" for "Tensile Strength"***

Regarding substitution of the term "fracture" for "tensile," H. Tracy Hall testifies that tensile strength means the point at which a material breaks while subject to pulling forces in the opposite direction. Hall Aff. para. 18. Fracture strength, on the other hand, is a broader category that includes breaking due to any type of force, including shear, torsion, impact and tensile, Mr. Hall testifies. *Id.* Mr. Hall concludes that substitution of "fracture" for "tensile" broadens the claims of the original patent because fracture includes all forces that may cause the diamond to break rather than the specific pulling forces denoted by the term tensile. *Id.* FN7

FN7. Defendant also offers the affidavit of Bill J. Pope, a chemical engineering expert. Mr. Pope's testimony largely repeats the testimony of Mr. Hall on the subject of tensile versus fracture strength.

Defendant submits the affidavit of Mr. Curtis A. Johnson, a metallurgy expert, who testifies that "fracture

strength," as used in the '380 Patent, means the tensile strength or tensile stress at which the diamond compact will fracture. Affidavit of Curtis A. Johnson ("Johnson Aff.") para. 8. Mr. Johnson testifies that sintered diamond crystalline material and sintered cemented carbide material are weakest in tensile strength. Johnson Aff. para. 10. Interpreting fracture strength in terms of tensile failure, therefore, is consistent with the fact that the weakest fracture characteristic of a diamond compact is its tensile strength. *Id.*

Mr. Johnson relies in part on the specifications of the '380 Patent to support this construction. *See id.* para. 11; *see also* 380 Patent, col. 8, lines 49-52; col. 5, lines 34-35; col. 5, lines 39-45. General Electric argues that the specifications teach that the tensile strength is measured by a fracture test. Based upon these specifications and the fracture characteristics of brittle composite materials, Mr. Johnson concludes that fracture strength should be interpreted in terms of tensile failure. Johnson Aff. para. 10. Such a construction, Mr. Johnson testifies, would not broaden the claims of the '623 Patent, which referenced "tensile strength" only.

Mr. Johnson's opinion is supported by the prosecution history. During the prosecution, the PTO Examiner rejected the argument that substituting "fracture" for "tensile" broadened the claims of the '623 Patent. *See Ward Aff. Exh. J, para. F.*

The court finds that the expert opinion of Mr. Johnson, together with the patent specifications and prosecution history, create a genuine issue of material fact regarding the fracture characteristics of the diamond compact. This issue of fact must be resolved for the claim to be properly interpreted.

### **CONCLUSION**

The issue of material fact required to be present in order to entitle the non-moving party to proceed to trial in the face of a motion for summary judgment need not be resolved conclusively in favor of the non-moving party. "All that is required is a showing of sufficient evidence supportive of the existence of the claimed factual dispute to require a judge or jury to resolve differing versions of the truth through a trial." *Tillotson, Ltd. v. Walbro Corp.*, 831 F.2d 1033, 1039 (Fed.Cir.1987) (quoting *Lemelson v. TRW, Inc.*, 760 F.2d 1254, 1260-61 (Fed.Cir.1985)). General Electric has made such a showing here.

Accordingly, based on the foregoing and good cause appearing,

IT IS HEREBY ORDERED that

1. Defendant's motion for summary judgment is denied.
2. This order shall suffice as the court's ruling in this matter and no further order need be prepared by counsel.

D.Utah,1990.

General Elec. Co. v. U.S. Synthetic Corp.

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