United States District Court,
D. Massachusetts.

ULTRA-TEMP CORPORATION, a Michigan corporation,
Plaintiff.
v.
ADVANCED VACUUM SYSTEMS, INC,
Defendant.

Civ. A. No. 93-10102-RCL

June 5, 1998.

Patentee brought action for infringement of patents disclosing metallurgical processes. Alleged infringer moved for summary judgment on issue of literal infringement. The District Court, Collings, United States Magistrate Judge, held that patents were not literally infringed.

Motion for summary judgment allowed.

Not infringed.

Ralph A. Loren, Lahive & Cockfield, Boston, MA, Douglas W. Sprinkle, Ellen S. Cogen Lipton, Gifford, Krass, Groh, Sprinkle, Patmore, Anderson & Citkowsk, Birmingham, MI, for Plaintiff.

Brandon F. White, Michael A. Albert, Foley, Hoag & Eliot, Boston, MA, Robert E. Wagner, Richard C. Himelhoch, Thomas K. Stine, Wallenstein, Wagner & Hattis, Chicago, IL, Jeffrey R. Gargano, Wallenstein & Wagner, Chicago, IL, for Defendant.

MEMORANDUM AND ORDER ON MOTION FOR SUMMARY JUDGMENT OF NON-LITERAL INFRINGEMENT OF U.S. PATENT NOS. 4,575,449 ***AND*** 4,591,841 (# 161)

COLLINGS**, United States Magistrate Judge.**

I. Introduction

This patent litigation has spawned numerous motions for summary judgment and motions for partial summary judgment since its inception. The procedural and historical background of the case has been detailed at length in the various decisions on the prior dispositive motions and need not be repeated herein. Indeed, the issues raised in the instant motion are quite discrete, requiring no extensive factual recitation for contextual purposes.

With leave granted by the Court, the defendant Advanced Vacuum Systems, Inc. ("AVS") has filed a motion

for summary judgment of non-literal infringement of U.S. patents nos. 4,575,449 ("the '449 patent") and 4,591,481 ("the '481 patent") (# 161), together with a memorandum of law in support (# 162) and a statement of undisputed facts with attached exhibits (# 163). The plaintiff Ultra-Temp Corporation ("Ultra-Temp") has duly submitted a brief in opposition to the dispositive motion supplemented by exhibits (# 169), but no statement of disputed facts to controvert or challenge the statement of facts presented by the AVS. With the defendant's reply memorandum having been filed, FN1 the record is complete and the motion is in a posture for decision. FN2

FN1. At the Court's request, the defendant also submitted the file histories for the '605, '449 and '481 patents as supplemental exhibits.

FN2. With the parties' consent this case has been referred and reassigned to the undersigned for all purposes, including trial and the entry of judgment, pursuant to 28 U.S.C. s. 636(c).

[1] [2] [3] The defendant manufactures and sells furnaces. It is alleged that by virtue of a method practiced by General Carbide, one of its customers, AVS has literally infringed the '449 and '481 patents either contributorily or by inducement. When a charge of literal infringement is advanced, the applicable legal framework is as follows:

A literal infringement analysis requires two separate steps. First, the asserted claims must be interpreted by the court as a matter of law to determine their meaning and scope. Markman v. Westview Instruments Inc., 52 F.3d 967, 979 (Fed.Cir.1995) (in banc); Senmed, Inc. v. Richard-Allan Med. Indus., Inc., 888 F.2d 815, 818, 12 USPQ2d at 1511 (Fed.Cir.1989). In the second step, the trier of fact determines whether the claims as thus construed read on the accused product, Id., 888 F.2d 815, 12 USPQ2d at 1511. To establish literal infringement, every limitation set forth in a claim must be found in an accused product, exactly. Becton Dickinson & Co. v. C.R. Bard, Inc., 922 F.2d 792, 796, 17 USPQ2d 1097, 1099 (Fed.Cir.1990). Infringement, both literal and under the doctrine of equivalents, is an issue of fact. SSIH Equip. S.A. v. United States Int'l Trade Comm'n, 718 F.2d 365, 376, 218 USPQ 678, 688 (Fed.Cir.1983).

Southwall Technologies, Inc. v. Cardinal IG Company, 54 F.3d 1570, 1575 (Fed.Cir., 1995).

It is AVS' position that as a matter of law and fact Ultra-Temp cannot establish that General Carbide performs the first step of claim 1 of either the '449 or the '481 patent, and, therefore, the literal infringement claims must fail. The first issue to be decided is whether the '449 patent requires the placement of *previously sintered parts* into a pressurizable chamber. If it does, there is no literal infringement of the '449 patent.

The issue with respect to the '481 patent is whether it requires that *previously liquid phase sintered parts* be placed in a vacuum and heated before pressure is applied. In essence, resolution of this motion turns on construction of the claims in each patent.

II. The Patents

Entitled "Metallurgical Process", the '449 patent generally "discloses a method for densifying previously sintered parts constructed of powdered metals, ceramics or the like to nearly 100% theoretical density." (# 163, Exh. A, Abstract) Also entitled "Metallurgical Process", the '481 patent "issued from a continuation-in-

part application to the application which resulted in the '449 patent." FN3 (# 163 para. 2 and Exh. B)

FN3. So, too, "[t]he '449 patent issued from a continuation-in-part application from the application which resulted in" U.S. Patent No. 4,431,605 ("the '605 patent"), also entitled "Metallurgical Process". (# 163 para.para. 3, 4 and Exh. B, C)

A. The '449 Patent

[4] Claim 1 of the '449 patent reads as follows:

1. A method for densifying previously sintered parts containing internal voids and constructed from powdered metals, ceramics and binder, comprising the steps of:

placing said parts in a pressurizable chamber,

heating said parts above the liquid phase temperature of the parts,

applying a pressure in an amount below the capillary pressure imposed on moltenbinder in a direction away from the part voids and above the pressure necessary to physically collapse the part structure inwardly to said parts for a predetermined period of time while maintaining said parts above said liquid phase temperature, said applying step comprising the step of introducing a sufficient amount of a gas to said chamber to create said pressure.

Statement of Facts # 163, Exh. A, col. 6, lines 23-38.

On or about March 29th or April 1st of 1985, claim 1 of the '449 patent as it was originally worded was rejected by an examiner at the Patent and Trademark Office "under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6" of the '605 patent and "under 35 U.S.C. 103 as being unpatentable over Kimura et al." (# 163, Exh. D at 2)

Approximately three months after this rejection, claim 1 of the '449 patent was amended to provide as quoted, *supra*. The manner in which the amendments altered the original wording is as follows:

1. (amended) A method for densifying previously sintered parts containing internal voids and constructed from powdered metals, ceramics and binder, comprising the steps of:

placing said parts in a pressurizable chamber,

applying a pressure in an amount below the capillary pressure imposed on molten binder in a direction away from the part voids and above the pressure necessary to physically collapse the part structure inwardly to said parts for a predetermined period of time while maintaining said parts above said liquid phase temperature, said applying step comprising the step of introducing a sufficient amount of gas to said chamber to create said pressure.

Statement of Facts # 163, Exh. E.FN4

FN4. AVS notes that "[i]n amendment practice, insertions to claims are underlined and deletions are placed in brackets. *See* 37 C.F.R. s. 1.121(b)." (# 163 para. 7) In this instance it appears that deletions were indicated by striking over.

In the Remarks by Ultra-Temp's attorney that accompanied this amendment, it was noted that

The present invention relates to a method for densifying previously sintered parts having internal voids and which are constructed from powdered metals, ceramics or the like. The method comprises the steps of placing the parts in a pressurizable chamber and heating the parts above their liquid base temperature.

* * * * * *

Claim 1 in the instant application essentially incorporates the limitations of previous claim 5 except that the gas is not limited to an inert gas.

Supplemental Exhibits, Exh. L at AVS1558-9.

"Previous claim 5" that was rejected by the patent examiner read:

The method as defined in claim 1 wherein said pressure applying step comprises the steps of:

placing said parts in a pressurizable chamber; and

introducing a sufficient amount of an inert gas to said chamber to create said pressure.

Supplemental Exhibits, Exh. L at AVS1535 (emphasis added).

In other words, the act of placing said parts in a pressurizable chamber was viewed by the inventor as a limitation to the original claim 1.

As defined in the specification of the patent, "previously sintered parts mean parts that have been raised to liquid phase temperature regardless of whether the parts are cooled following sinter." (Plaintiff's Brief, # 169, Exh. C, col. 3, lines 22 - 26) In construing claim 1 of the '449 patent, the first question is the meaning of the term "said parts" in step 1 of the claim. AVS argues that "said parts" must refer back to "previously sintered parts" in the preamble to the claim or the claim would be rendered indefinite. In support of its position, the defendant cites to a treatise, Robert C. Farber, *Landis On Mechanics Of Patent Claim Drafting,* third edition, 50-53 (1990), wherein the author explains that "[t]he word 'said' is used by many practitioners rather than 'the' to refer back to previously recited elements, sometimes to a previously recited anything." (# 163, Exh. F) Section 706.03(d) of The Manual Of Patent Examination incorporates a similar view. (# 163, Exh. G) Further, such a construction gives ordinary meaning to the phrase "said parts", harkening back to the more complete antecedent description of "previously sintered parts."FN5

FN5. Although not dispositive of the issue, the defendant notes that in an earlier Report and Recommendation Magistrate Judge Bowler construed the term "said parts" in the claim 1 of the '449 patent to mean "previously sintered parts." (# 163, Exh. H at 25)

Additional support for this interpretation has been proffered. A review of the specification of the '449 patent reveals that in the section "Summary Of The Present Invention", it is written that "[i]n brief, the method of the present invention comprises placing previously sintered parts within a pressurizable chamber." (# 163, Exh. A, col. 2, lines 36-38) Again in the "Detailed Description Of A Preferred Embodiment Of The Present Invention", the patent reads "[i]n brief, in the method of the present invention the sinter parts are placed within a pressurizable chamber." (# 163, Exh. A, col. 3, lines 35-37)

There is also case law which supports AVS' view. The Federal Circuit has had occasion to note that "when the claim drafter chooses to use both the preamble and the body to define the subject matter of the claimed invention, the invention so defined, and not some other, is the one the patent protects." Bell Communications Research, Inc. v. Vitalink Communications Corporation, 55 F.3d 615, 620 (Fed.Cir., 1995). Thereafter analyzing a patent claim, the Court wrote:

Claim 6 of the '080 patent recites a "method for transmitting a packet over a system comprising a plurality of networks ... said packet including a source address and destination address," as its preamble indicates. It then recites, inter alia, the steps "assigning, by said source devices, one of said trees to broadcast said packet and associating with said packet an identifier indicative of said one of said trees." (Emphasis added). These two steps of the claimed method, by referring to "said packet," expressly incorporate by reference the preamble phrase "said packet including a source address and a destination address." As a result, only a method for transmitting packets that have both source and destination addresses can literally infringe Claim 6.

Vitalink, 55 F.3d at 621.

The analogy to the instant case is obvious: according to AVS, step one of claim 1 of the '449 patent requires the placement of previously sintered parts ("said parts") into a pressurizable chamber, that General Carbide undeniably does not perform that step and, therefore, that there can be no literal infringement.

According to Ultra-Temp, the '449 patent

is directed to a method for densifying previously sintered parts but, as defined in the patent specification, it does not matter if the parts were previously sintered a year before the densification or one second before the densification.

Plaintiff's Brief # 169 at 10.

The plaintiff points to the "Summary Of The Present Invention" in the patent specification where it provides:

The parts may be either vacuum or hydrogen sintered and, similarly, may be cooled following the sintering step.

* * * * * *

For previously sintered parts the presure (sic) vessel can be heated first and then pressurized, pressurized first and then heated or simultaneously pressurized and heated. In the event that sintering is performed in the

same vessel, pressure is applied immediately after sintering is completed.

Plaintiff's Brief # 169, Exh. C, col. 2, lines 38-40, 57-62.

Ultra-Temp cites to other parts of the '449 patent as, for example, Examples 2 and 3, "which represent a preferred embodiment of the invention, describ[ing] the preferred method in which the parts are maintained at a liquid phase temperature following the sinteringoperation and then pressurized." (# 169 at 9 and Exh C, col. 4) The plaintiff argues that under controlling law, it is improper to construe the claim as the defendant would have it because under such an interpretation, preferred embodiments of the patent would not be covered. As the Federal Circuit has held:

Thus, second, it is always necessary to review the specification to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning. The specification acts as a dictionary when it expressly defines terms by implication. As we have repeatedly stated, "[c]laims must be read in view of the specifications, of which they are a part." The specification contains a written description of the invention which must be clear and complete enough to enable those of ordinary skill in the art to make and use it. Thus, 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.

Vitronics Corp. v. Conceptronic, 90 F.3d 1576, 1582 (Fed.Cir.1996) (citations omitted).

Thereafter applying this reasoning to the patent being considered in *Vitronics,* the Court concluded:

Indeed, if "solder reflow temperature" were defined to mean liquidus temperature, a preferred (and indeed only) embodiment in the specification would not fall within the scope of the patent claim. Such an interpretation is rarely, if ever, correct and would require highly persuasive evidentiary support, which is wholly absent in this case.

Vitronics, 90 F.3d at 1583 (citations omitted).

It is Ultra-Temp's position that a construction of claim 1 of the '449 patent that does not cover the method employed by General Carbide would be incorrect as a matter of law.

AVS does not dispute that there are other methods or embodiments disclosed in the '449 patent, indeed ones where a preform is initially placed in a furnace with a pressurizable chamber. (# 162 at 9) However, so too is a method where previously sintered parts are placed in a pressurizable chamber disclosed. In other words, the defendant's proposed claim construction plainly reads on a preferred embodiment set forth in the patent specification. FN6 Because there is more than one preferred embodiment set forth in the '449 patent, AVS contends that this case can be distinguished factually from the *Vitronics* case.

FN6. Ultra-Temp does not disagree with this statement.

In addition, it is noted that in the *Vitronics* decision the Federal Circuit also wrote that in undertaking the claim construction analysis:

Third, the court may consider the prosecution history of the patent, if in evidence. This history contains the

complete record of all the proceedings before the Patent and Trademark Office, including any express representations made by the applicant regarding the scope of the claims. As such, the record before the Patent and Trademark Office is often of critical significance in determining the meaning of the claims. ("The prosecution history limits the interpretation of claim terms so as to exclude any interpretation that was disclaimed during prosecution.").

Vitronics, 90 F.3d at 1582-3 (citations omitted).

In the present case, the patent history reveals that Ultra-Temp amended claim 1 of the '449 patent to overcome a rejection by the patent examiner by, *inter alia,* adding the self-described limitation which was previously in claim 5. Originally claim 1 was broader, providing no limitation as to the condition of the parts when they were loaded into the pressurizable chamber. In other words, presumably both preforms and previously sintered parts would be included. Given the breadth of the original claim 1, it likely covered the disclosed embodiments advocated by both the plaintiff and the defendant in support of their respective positions. While the scope of claim 1 was circumscribed by the amendment, the embodiments remained consistent in the specification from the initial application to the final patent. In these circumstances it is not surprising that with the scope of the sole independent claim having been narrowed, some of the embodiments may not longer fall within its purview. This is a critical distinction from the situation in the *Vitronics* case where there was no issue of claims being limited before the patent was issued; the problem in *Vitronics* was that the Court construed the claim in such a way that it did not cover the sole embodiment of the invention listed in the patent. Vitronics, 90 F.3d at 1583.

[5] The amendment to claim 1 of the '449 patent added the step of "placing said parts in a pressurizable chamber." Ultra-Temp has proffered no explanation whatsoever for the amendment despite bearing the burden of establishing the reason the change was required. *See* Warner-Jenkinson Co. v. Hilton Davis Chemical Co., 520 U.S. 17, 117 S.Ct. 1040, 1051, 137 L.Ed.2d 146 (1997). In the absence of any contrary evidence, the only logical and reasonable explanation is that the amendment was made to overcome the patent examiner's rejection. The result of the amendment is that the scope of claim 1 of the '449 patent is limited to methods wherein previously sintered parts are placed in a pressurizable chamber. While different embodiments are disclosed in the specification, it is the claim that defines the patent holder's right to exclude. Environmental Instruments, Inc. v. Sutron Corporation, 877 F.2d 1561, 1564 (Fed.Cir.1989) ("The disclosure of a patent is in the public domain save as the claims forbid. The claims alone delimit the right to excluded; only they may be infringed.") To read claim 1 more expansively would be to render the amendment meaningless, and to give back to Ultra-Temp something it gave up to get the patent during the prosecution.

[6] As a matter of law, step one of claim 1 of the '449 patent as properly construed requires the placement of previously sintered parts in a pressurizable chamber. As a matter of fact, there is no dispute that General Carbide does not perform this step in its process. Ultra Temp's expert asserts that "it appears clear that General Carbide loads its preforms or 'green bodies' [neither of which are 'previously sintered parts' FN7] into the furnace and then vacuum sinters the parts above liquidus." (Defendant's Memorandum # 162 at 7; Statement of Facts # 163, Exh. I at 9) Consequently, AVS can not be held liable for contributory infringement or inducement to infringe the '449 patent since its customer does not literally infringe claim 1, and all other claims of the patent are dependent upon claim 1. *See* Wahpeton Canvas Co. v. Frontier, Inc., 870 F.2d 1546, 1552, n. 9 (Fed.Cir.1989).

FN7. See # 163, Exh. A, col. 1, lines 17-24.

B. The '481 Patent

The present invention provides a method for densifying and removing porosity in previously sintered carbide or other liquid phase sintered part which overcomes all the disadvantages of the various proposed processes discussed above.

Statement of Facts # 163, Exh. B, "Summary Of The Present Invention".

Claim 1 of the '481 patent reads as follows:

1. A method for densifying previously liquid phase sintered parts which may contain voids or porosity and constructed of cemented carbides, powdered metals, ceramics or the like comprising of the steps:

heating said parts in a vacuum to a temperature such that they are substantially in the two phase field of hard phase plus liquid and that an equilibrium or nearly equilibrium amount of hard phase has dissolved in the liquid phase, and

applying a pressure in an amount below that which overcomes the capillary forces imposed on the molten binder in a direction away from the part voids and above the pressure necessary to physically collapse the part structure inwardly to said parts for a predetermined period of time while maintaining said parts above said temperature.

Statement of Facts # 163, Exh. B, col. 12, lines 28-68.

The prior discussion regarding the general principles of construction to be applied to the meaning of "said parts" in the context of claim 1 of the '449 patent is fully applicable here. Put another way, claim 1 of the '481 patent requires heating previously liquid phase sintered parts in a vacuum. This construction is supported by at least one embodiment in specification of the '481 patent:

If the material has been previously hydrogen sintered, the parts should be treated under a vacuum to a temperature such that they are nearly in the WC+Liq region of their phase diagram before pressurization. This will help any hydrogen which may be trapped in the pores to dissolve in order to trap any gas in such pores.

Statement of Facts # 162, Exh. B, col. 6, lines 22-29; *see also* col. 8, lines 45-50. Ultra Temp's expert concedes that General Carbide does not heat previously liquid phase sintered parts in a vacuum, but rather, the previously sintered parts are immediately pressurized.FN8

FN8. Ultra Temp's experts states: "I agree ... that (in) the General Carbide process, the parts are pressurized immediately after sintering." (Defendant's Memorandum # 162 at 7; Statement of Facts # 163, Exh. I at 9)

Other than noting that there are preferred embodiments in the specification of the '481 patent that would cover General Carbide's process (# 169, Exh. E, col. 6, lines 45-50; col. 8, line 51-col. 9, line 14), Ultra-

Temp adopts its arguments advanced with respect to the '449 patent. The plaintiff does not address the defendant's specific position that claim 1 of the '481 patent requires heating previously liquid phase sintered parts in a vacuum before pressurization, not pressurizing immediately after the sintering step.

[8] As a matter of law, properly construed claim 1 of the '481 patent mandates heating previously liquid phase sintered parts in a vacuum before pressurizing. As a matter of fact, there is no dispute that General Carbide does not heat previously liquid phase sintered parts in a vacuum. Consequently, AVS cannot be held liable for contributory infringement or inducement to infringe the '481 patent since its customer does not literally infringe claim 1 of the patent, and all other claims are dependent. Wahpeton, 870 F.2d at 1552, n. 9.

III. Conclusion And Order

For all the reasons stated, it is ORDERED that the defendant's Motion For Summary Judgment Of Non-Literal Infringement Of U.S. Patent Nos. 4,575,449 And 4,591,481 be, and the same hereby is, ALLOWED.

D.Mass.,1998.
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