

United States Court of Appeals for the Federal Circuit

2007-1512

PSN ILLINOIS, LLC,

Plaintiff-Appellant,

v.

IVOCLAR VIVADENT, INC., MICRO DENTAL LABS, and NATIONAL DENTEX
CORPORATION,

Defendants-Appellees,

and

DENTSPLY INTERNATIONAL, INC.,

Defendant-Appellee,

and

DEN-MAT CORPORATION,

Defendant-Appellee.

Michael P. Mazza, Michael P. Mazza, LLC, of Glen Ellyn, Illinois, argued for plaintiff-appellant. With him on the brief was Dana L. Drexler. Of counsel on the brief were Shawn M. Collins and Robert L. Dawidiuk, The Collins Law Firm, of Naperville, Illinois.

Steven M. Bauer, Proskauer Rose LLP, of Boston, Massachusetts, argued for all defendants-appellees. With him on the brief for Ivoclar Vivadent, Inc., et al., were Jeremy P. Oczek; Robin K. Powers, Rothschild, Barry & Myers LLP, of Chicago, Illinois, for Ivoclar Vivadent, Inc. and Micro Dental Labs; Gary William Smith, of Posternak Blankstein & Lund LLP, of Boston, Massachusetts, for National Dentex Corporation; and Timur E. Slonim, Mintz, Levin, Cohn, Ferris, Glovsky & Popeo, P.C., of New York, New York, for Micro Dental Labs. On the brief for Dentsply International, Inc., were Harvey Freedenberg and Shawn K. Leppo, McNees Wallace & Nurick LLC, of Harrisburg, Pennsylvania; and Dean A. Monco, Wood Phillips, of Chicago, Illinois. On the brief for Den-Mat Corporation were Mark M. Supko and Michael I. Coe, Crowell & Moring LLP, of Washington, DC.

Appealed from: United States District Court for the Northern District of Illinois

Judge Virginia M. Kendall

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Appeal from United States District Court for the Northern District of Illinois in case no. 04-CV-7232, Judge Virginia M. Kendall.

DECIDED: May 6, 2008

Before MICHEL, Chief Judge, LINN and PROST, Circuit Judges.

MICHEL, Chief Judge.

PSN Illinois, LLC (“PSN”) appeals from the district court’s summary judgment of non-infringement which resulted in a stipulated judgment and dismissal. Stipulated Judgment and Dismissal, PSN Illinois, LLC v. Ivoclar Vivadent, Inc., No. 04-CV-7232

(N.D. Ill. July 6, 2007). We heard oral argument on March 3, 2008. Although we conclude that the district court construed the claim term “ready for mounting” too narrowly, we nevertheless affirm the district court’s summary judgment of non-infringement because even under the correct claim construction, clearly no infringement occurred.

I.

PSN is the assignee of U.S. Patent No. 4,579,530 (“the ’530 patent”), which claims a method of fabricating porcelain veneers for teeth. The patent originally issued in 1986, and a reexamination certificate issued in July 1989. Following reexamination, the ’530 patent contained only one independent claim:

1. A method of fabricating a custom-made porcelain veneer restoration for a tooth without the use of a metal matrix comprising the steps of:
 - a. preparing an impression of said tooth;
 - b. forming from said impression a statue of said tooth out of an investment material;
 - c. applying porcelain powder to the surface of said statue to build said veneer restoration conforming to the shape of the bonding surface of said tooth;
 - d. firing the porcelain veneer restoration on said statue; and
 - e. eroding away said statue from said porcelain veneer restoration leaving said restoration ready for mounting on said tooth.

In the specification, the patent describes first forming an impression of the patient’s teeth. ’530 patent, col.3 ll.48-53. The impression is then used to form a “statue” or model of the teeth out of investment material, which is generally temperature resistant and not as hard as the porcelain veneer. Id. at col.3 ll.54-66. Porcelain powder, generally in a slurry, is used to build the veneer on the statue of the tooth. Id. at col.2

II.30-34. The veneer is then fired on the statue. Next, the statue is eroded or blasted away with an abrasive material. Id. at col.2 II.49-53.

In the summary of the invention, the specification suggests that several operations may be performed after the statue has been eroded, including touching up to smooth edges and removing undercuts, glazing, cleaning, etching, and coating with cement. Id. at col.2 II.54-60. In the detailed description of the preferred embodiments, however, it teaches:

While still on the statue, the veneer casing may be subject to a finishing treatment to improve the esthetics, such as bevel the incisal edge and feather the embrasures and the marginal area as close as possible to the finished margin. Also a glaze may be added. The support provided by the statue with the casing still mounted while such treatment is conducted is a feature of this invention.

Id. at col.4 II.39-46.

Ivoclar and Dentsply, suppliers who sell materials used in the accused process, are accused of contributing to or inducing infringement. MicroDental and National Dentex are dental laboratories that manufacture veneers and thus are accused of direct infringement. Den-Mat acts as both a supplier and a dental laboratory. The parties have agreed for the purposes of this appeal that all of the accused processes are “functionally identical” to Ivoclar’s IPS Empress technique (“Empress process”).

The accused Empress process is a “lost wax” process. Like the process of claim 1 of the '530 patent, the Empress process begins by taking an impression of the patient’s tooth or teeth. A hard stone model is then created from the impression. Next, wax is placed on the model and formed into the desired shape of the veneer; this is called a “wax-up.” Sprues (or wax posts) are then attached to the wax-ups. One or more wax-ups are placed in a cylinder, and the cylinder is filled with investment

material. The cylinder is heated so that the wax-up and sprue melt, leaving a veneer-shaped void in place of the wax-up and a channel to the void in place of the sprue. An ingot, made from compressed porcelain powder that has been sintered, is then heated and pressed through the sprue-shaped void into the veneer-shaped void. After that, the investment cylinder is eroded away. What remains is the veneer attached to a porcelain sprue. The sprue is removed; the edge of the tooth to which the sprue was attached is finished; and additional finishing work is performed on the veneer prior to mounting it on the patient's tooth.

PSN sued fourteen defendants in the Northern District of Illinois, accusing them of infringing the claims of the '530 patent.¹ PSN settled with the majority of these defendants, who were subsequently dismissed from the lawsuit. The remaining defendants settled as to their other accused processes, such that only claims of infringement as to the Empress process discussed above, or processes that are functionally identical, remained in the case.

In July 2005, Ivoclar filed a motion for summary judgment of non-infringement as to its Empress process. In December 2006, the district court issued a memorandum opinion and order, construing certain claim terms and granting summary judgment of non-infringement. PSN Illinois, LLC v. Ivoclar Vivadent, Inc., No. 04-CV-7232 (N.D. Ill. Dec. 7, 2006) ("Summary Judgment Opinion"). In particular, the district court construed "porcelain powder" as "a medium containing porcelain particles" because the specification disclosed applying porcelain powder as part of an "opaque water slurry" and not as porcelain powder without a medium. Summary Judgment Opinion at 7-8.

¹ The patent expired on November 21, 2004, shortly after the present suit was filed.

The district court also construed “statue” as “the positive, substantially entire version of the tooth, having at least portions of three sides of the tooth, formed by investment material from the impression. A synonym for a statue is a model.” Id. at 10. Finally, the district court construed “ready for mounting” as “leaving the veneer restoration ready to be fitted to and cemented on a patient’s tooth for which it was custom-made.” Id. at 11.

The district court next evaluated whether Ivoclar was entitled to summary judgment that its Empress process did not infringe the claims as construed, either literally or under the doctrine of equivalents. First, as to “porcelain powder,” the district court found that a genuine issue of material fact remained as to whether the ceramic ingot used by the Empress process could literally be porcelain powder and that this factual issue could not properly be resolved on summary judgment. Id. at 13-14. Next, the district court held that no reasonable jury could find that the Empress process literally uses a “statue” because the Empress process “uses th[e] positive mold [of the patient’s tooth] to make a negative model out of investment material”; the district court held that this “negative model” was not a “statue.” Id. at 14. But the district court concluded that disputed issues of material fact remained as to whether “the combination of the initial model and the negative investment mold used in the Empress [process] are the equivalent of the ’530 Patent statue.” Id. Finally, the district court concluded that the Empress process could not infringe either literally or under the doctrine of equivalents because the veneer of the Empress process is not “ready for mounting” when removed from the investment material. Id. at 15. According to the district court, “the Empress veneer requires substantial finishing work after it is removed from the cylinder of investment material and before it is fitted and cemented to the patient’s

tooth.” Id. The district court thus granted Ivoclar’s motion for summary judgment of non-infringement. Id. at 16.

PSN then moved for reconsideration of the court’s summary judgment order, arguing that the court had mistakenly found that PSN had not proposed a construction for “ready for mounting,” had not considered PSN’s expert testimony as to the construction of “ready for mounting,” and erroneously interpreted the specification by limiting the interpretation of “ready for mounting” to a preferred embodiment. The district court denied PSN’s motion for reconsideration. PSN Illinois, LLC v. Ivoclar Vivadent, Inc., No. 04-CV-7232 (N.D. Ill. May 29, 2007) (“Reconsideration Opinion”). The district court recognized that PSN actually had provided a proposed construction in its Local Rule 56.1 additional statement of material facts, but noted that PSN did not discuss or argue its construction in opposing the motion for summary judgment. Reconsideration Opinion at 2. Nevertheless, the district court addressed and rejected PSN’s proposed construction (under which, a veneer would be “ready for mounting” even if finishing operations still needed to be performed on it) on the merits. Id. at 2-6. The district court also stated that it had considered the testimony of PSN’s experts but found that reliance on expert testimony was unnecessary because the claims could be construed in light of the intrinsic record alone. Id. at 6-7. Thus, the court denied PSN’s motion for reconsideration.

The parties then filed a stipulated judgment and dismissal of the remaining claims. As part of the order entering that judgment, the district court stated: “An appeal is immediately certified to the Federal Circuit Court of Appeals pursuant to 28 U.S.C. § 1295 as to the issues of claim construction and infringement involving the pressable

processes referenced in Paragraph (1) of the Stipulated Judgment and Dismissal. The defendants' remaining, non-settled counterclaims are dismissed without prejudice." J.A. 37.² This appeal followed. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

II.

We review a district court's grant of summary judgment de novo. Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp., 149 F.3d 1309, 1315 (Fed. Cir. 1998). At summary judgment, all facts and inferences must be construed in the light most favorable to the non-movant. Id. Summary judgment is only appropriate if no genuine issues of material fact exist and the movant is entitled to judgment as a matter of law. Id.

A. Claim Construction

Claim construction is a question of law reviewed de novo. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454-56 (Fed. Cir. 1998) (en banc). We determine the ordinary and customary meaning of undefined claim terms as understood by a person of ordinary skill in the art at the time of the invention, using the methodology in Phillips v. AWH Corp., 415 F.3d 1303, 1312-19 (Fed. Cir. 2005) (en banc).

Claim 1, the only independent claim, requires "eroding away said statue from said porcelain veneer restoration leaving said restoration ready for mounting on said tooth." (emphasis added). The district court construed "ready for mounting" as "leaving the veneer restoration ready to be fitted to and cemented on a patient's tooth for which it

² We note that the district court's statement that an appeal was being certified to this court under Section 1295 was incorrect because Section 1295 simply states this court's jurisdiction and does not address or require "certification" of appeals. Nevertheless, a review of the record assures us that the stipulated judgment and dismissal along with the district court's prior orders, resolved the remaining claims as to all remaining parties. Thus, although no appeal was "certified," the district court's entry of the stipulated judgment and dismissal is a final judgment that we have jurisdiction to review.

was custom-made.” Summary Judgment Opinion at 11. On appeal, PSN argues that the district court incorrectly construed the term “ready for mounting” as excluding all finishing activities. We agree that the district court erred in holding that a veneer could not be “ready for mounting” if any finishing step is performed following removal of the investment material.

The claim language itself provides no guidance as to what is meant by “ready for mounting,” and the specification provides no explicit definition for “ready for mounting.” Nevertheless, the specification illuminates the proper construction of the term. In the summary of the invention section, the specification teaches that some finishing steps may be performed after the statue is eroded:

After cooling, the statue is then removed from the porcelain veneer by blasting with an abrasive material whose hardness is sufficient to erode away the investment material but not hard enough to damage the porcelain.

The veneer casing produced by either the single or double bake process is then touched up to smooth all edges and remove all visible undercuts and, if desired, a glazing may be added. After cleaning, the interior surface of the veneer casing and the engaging surfaces of the tooth are etched and coated with a suitable cement to permit the veneer to be mounted and fixed in place.

’530 patent, col.2 ll.49-60 (emphasis added).

In describing a preferred embodiment of the invention, however, the specification teaches that finishing steps may be performed while the veneer is still on the statue:

While still on the statue, the veneer casing may be subject to a finishing treatment to improve the esthetics, such as bevel the incisal edge and feather the embrasures and the marginal areas as close as possible to the finished margin. Also a glaze may be added. The support provided by the statue with the casing still mounted while such treatment is conducted is a feature of this invention.

Id. at col. 4 ll.40-47 (emphases added). Additionally, a detailed example in the specification discloses filling in embrasures with porcelain slurry, covering the surfaces with a glaze, and then removing the veneer from the investment material. Id. at col.5 l.66 – col.6 l.8.

Based on the description of a preferred embodiment and particularly on the statement in that section that the support provided by the statue during finishing is “a feature of this invention,” the district court construed “ready for mounting” to exclude subsequent finishing steps. The district court characterized the steps of cleaning, sterilization, etching, and adding cement as being associated with mounting, rather than finishing. Summary Judgment Opinion at 11. In denying PSN’s motion for reconsideration, the district court rejected its contention that the definition of “ready for mounting” should also allow for finishing as well as fitting operations following statue removal. Reconsideration Opinion at 3. Such finishing steps include “beveling, shaping, and glazing.” Id. at 4. The district court found that adopting PSN’s proposed construction would exclude (or “at the very least ignore”) a preferred embodiment because the proposed construction stated that finishing will take place after the statue is removed, while the description of a preferred embodiment states that “the support provided by the statue with the casing still mounted while such treatment is conducted is a feature of this invention.” Id. at 4-5.

When read in context of the claim language and the specification, we find that the district court was incorrect in holding that the description of a preferred embodiment had more bite than the description in the summary of the invention. Notably, the description of a preferred embodiment states that “[w]hile still on the statue, the veneer casing may

be subject to a finishing treatment to improve the esthetics.” While the description of that preferred embodiment contemplates performing finishing operations while the veneer is still on the statue, the description in the summary of the invention contemplates possibly performing finishing operations following statue removal. Adopting a construction that allows for either (i.e., for some finishing to be performed either before or after statue removal) would neither exclude nor ignore the preferred embodiment, as the district court found.

PSN cited Oatey Co. v. IPS Corp., 514 F.3d 1271, 1277 (Fed. Cir. 2008) as supplemental recent authority for the proposition that “[a]t leas[t] where claims can reasonably [be] interpreted to include a specific embodiment, it is incorrect to construe the claims to exclude that embodiment, absent probative evidence on the contrary.” This statement from Oatey is not applicable in this case, because as discussed above, the term “ready for mounting” can and should be construed in a way that encompasses the preferred embodiment.

Additionally, we note that Oatey is not a panacea, requiring all claims to cover all embodiments. Instead, courts must recognize that disclosed embodiments may be within the scope of other allowed but unasserted claims. Likewise, during prosecution, an applicant may have cancelled pending claims but not amended the specification to delete disclosure relevant only to the cancelled claims. In such cases, unasserted or cancelled claims may provide “probative evidence” that an embodiment is not within the scope of an asserted claim. This caution is relevant to the present case because claims 3-7 did not survive reexamination here. In particular, claims 5 and 7 were significantly broader than claim 1, and did not include the “ready for mounting” limitation.

Despite this prosecution history, the description in the summary of the invention and expert witness testimony support the conclusion that a person of ordinary skill in the art would understand that a veneer was “ready for mounting” after statue removal even if some “finishing” operations still needed to be performed. We conclude that the district erred in excluding all finishing steps and should have construed “ready for mounting” as “substantially fabricated such that only final finishing and fitting operations need be performed prior to mounting the veneer on a patient’s tooth for which it was custom-made.”

B. Infringement

With this corrected construction in mind, we turn to the district court’s infringement analysis. PSN argues that the operations performed following removal of the investment material in the accused Empress process are merely finishing steps and thus the veneer of the Empress process is “ready for mounting” after the investment material is eroded. This argument is hollow, however, and we affirm the district court’s summary judgment of noninfringement.

Under the correct construction, a veneer must be “substantially fabricated” to be “ready for mounting.” In a hearing before the district court, PSN’s counsel stated that for a veneer to be “ready for mounting,” it must be “generally fabricated. Its color and shape are defined.” J.A. 2852. We agree that for a veneer to be “substantially fabricated” its color and shape must be defined. The issue then becomes whether the shape of a veneer made in the Empress process is defined once the investment material is removed.

It is undisputed that in the accused process, following removal of the investment material, a sprue must be removed from the veneer and that edge of the veneer must be shaped. Because sprue removal is required after the investment material is eroded, the veneer's shape is not yet defined. The Empress process requires that substantial finishing be completed prior to mounting the veneer in the patient's mouth (removal of the sprue and shaping of the surface to which the sprue was attached in addition to true finishing steps such as touching-up and glazing). We thus conclude that a veneer made by the Empress process is not "ready for mounting" once the investment material is eroded.

PSN's arguments that sprue removal is a "finishing" step do not create a disputed issue of material fact as to infringement. In its reply brief on appeal, PSN conceded that to be "ready for mounting" when the statue is removed, "the veneer has been substantially formed out of porcelain, such that its size and shape is substantially complete." PSN also acknowledges that the sprue must be removed by the dental lab before the veneer is ready for final finishing and fitting procedures at the dentist's office. PSN tries to downplay the significance of sprue removal by stating that it can be done quickly and is done using the same tool as touching up. It also points to the expert testimony it proffered from the named inventor and a retained expert who owned and operated a dental laboratory that "sprue removal" is part of finishing. We find this testimony, however, to be wholly conclusory and thus insufficient to raise a disputed issue of material fact.

PSN also appears to characterize sprue removal as merely removing porcelain similar to other final finishing steps such as touching up rough edges.³ But all operations that remove porcelain are not the same: touching up might remove a burr or rough edge but does not substantially change the shape of the porcelain veneer following statue removal; sprue removal on the other hand removes a substantial amount of porcelain and substantially changes the shape of the porcelain veneer from that present when the statue was eroded. We conclude that summary judgment of no literal infringement was proper.

Additionally, there can also be no infringement under the doctrine of equivalents because such a finding of infringement would read the “ready for mounting” limitation out of the claim. Under the all-elements rule, “an accused product or process is not infringing unless it contains each limitation of the claim, either literally or by an equivalent.” Freedman Seating Co. v. Am. Seating Co., 420 F.3d 1350, 1358 (Fed. Cir. 2005) (citing Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 29 (1997) and Kustom Signals, Inc. v. Applied Concepts, Inc., 264 F.3d 1326, 1333 (Fed. Cir. 2001)). “[A]n element of an accused product or process is not, as a matter of law, equivalent to a limitation of the claimed invention if such a finding would entirely vitiate the limitation.” Id. (citing Warner-Jenkinson, 520 U.S. at 29). To determine whether finding infringement under the doctrine of equivalents would vitiate a claim limitation,

³ We note that PSN’s suggestion that all steps which remove porcelain are finishing steps could be taken to ridiculous extremes. Under this rationale, sculpting the veneer from a square block of porcelain could be characterized as “removing porcelain”; yet an unformed block of porcelain would clearly not be “ready for mounting.” Indeed, Gutzon Borglum might have considered removing a burr from George Washington’s nose at Mount Rushmore as final finishing, but we doubt he would have thought blasting the presidents’ heads from unformed stone was finishing just because both processes involved “removing granite.”

courts consider the totality of the circumstances, evaluating “whether the alleged equivalent can be fairly characterized as an insubstantial change from the claimed subject matter without rendering the pertinent limitation meaningless.” *Id.* at 1359.

Having evaluated the facts and circumstances of this case, we find that allowing infringement under the doctrine of equivalents would render the “ready for mounting” limitation meaningless. We do not foreclose the possibility that a process could infringe under the doctrine of equivalents even if the veneer made by such a process was not literally “ready for mounting” once the investment material was eroded. But under the facts of this case—where the veneer of the accused Empress process must have the sprue removed and that edge shaped before the veneer is in its substantially final shape—we hold that no reasonable jury could conclude that the accused process includes an equivalent of the “ready for mounting” limitation. Summary judgment of non-infringement was appropriate.

III.

For these reasons, the district court’s grant of summary judgment of non-infringement is

AFFIRMED.