

NOTE: This disposition is nonprecedential.

# United States Court of Appeals for the Federal Circuit

06-1289

MEDTRONIC NAVIGATION, INC.  
(formerly known as Surgical Navigation Technologies, Inc.),  
MEDTRONIC SOFAMOR DANEK, INC., and SOFAMOR DANEK HOLDINGS, INC.,

Plaintiffs-Appellants,

and

ST. LOUIS UNIVERSITY,

Plaintiff-Appellant,

and

TRUSTEES OF DARTMOUTH COLLEGE,

Plaintiff-Appellant,

v.

BRAINLAB MEDIZINISCHE COMPUTERSYSTEME GMBH,  
BRAINLAB AG, BRAINLAB USA, INC., and BRAINLAB, INC.,

Defendants-Appellees.

Martin R. Lueck, Robins, Kaplan, Miller & Ciresi L.L.P., of Minneapolis, Minnesota, argued for all plaintiffs-appellants. On the brief were Brian E. Ferguson, Raphael V. Lupo, and Bureden J. Warren, McDermott Will & Emery LLP, of Washington, DC; Terrence P. McMahan and Vera E. Elson, of Palo Alto, California; and Daniel R. Foster and Christopher D. Bright, of Irvine, California. Of counsel were David W. Harlan, Senniger Powers, of St. Louis, Missouri; and Munir R. Meghjee, Robins, Kaplan, Miller & Ciresi L.L.P., of Minneapolis, Minnesota.

Jay R. Campbell, Renner, Otto, Boisselle & Sklar, LLP, of Cleveland, Ohio, argued for defendants-appellees. With him on the brief were John J. Del Col, Joshua M. Ryland, and Mark C. Johnson. Of counsel on the brief was Thomas H. Shunk, Baker & Hostetler LLP, of Cleveland, Ohio. Also of counsel was Thomas G. Fistek, Renner, Otto, Boisselle & Sklar, LLP, of Cleveland, Ohio.

Appealed from: United States District Court for the District of Colorado

Senior Judge Richard P. Matsch

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DECIDED: February 5, 2007

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Before NEWMAN, LOURIE, and BRYSON, Circuit Judges.

LOURIE, Circuit Judge.

### DECISION

Medtronic Navigation, Inc., Medtronic Sofamor Danek, Inc., Sofamor Danek Holdings, Inc., St. Louis University, and Trustees of Dartmouth College (collectively “Medtronic”) appeal from the judgment of the United States District Court for the District

of Colorado setting aside a jury verdict in favor of Medtronic and granting judgment of noninfringement of U.S. Patents 5,383,454, 4,722,056, 5,389,101, and 5,603,318 in favor of BrainLAB Medizinische Computersysteme GmbH, BrainLAB AG, BrainLAB USA, Inc., and BrainLAB, Inc. (collectively “BrainLab”) as a matter of law. Because the district court did not err in its claim constructions and properly granted judgment of noninfringement as a matter of law in favor of BrainLab, we affirm.

## BACKGROUND

The patents in suit relate to image-guided surgery products that enable the precise localization of surgical instruments used during surgery. The '454 patent, entitled “System for Indicating the Position of a Surgical Probe Within a Head on an Image of the Head,” claims a system and method for tracking the tip of a surgical probe as it navigates through the patient’s body during an operation, while displaying a scanned image of the location of the probe. The patent discloses the use of an acoustic tracking system to track the position of the instrument. '454 patent, col.5 l.18-col.9 l.37. Similarly, the '056 patent, entitled “Reference Display Systems For Superimposing a Tomographic Image Onto the Focal Plane of an Operating Microscope” is directed to “reference display systems that may be used to integrate information from three-dimensional imaging devices and an operating microscope during an operative procedure on a patient.” '056 patent, col.1 ll.7-10. That patent’s specification describes using an acoustic or electromagnetic system to track movement. The '101 and '318 patents (collectively referred to as the “Heilbrun patents”), both entitled “Apparatus and Method for Photogrammetric Surgical Localization,” describe an invention that defines “the location of a medical instrument relative to elements in a medical workspace

including a patient's body region, especially (but not limited to) elements seen by the surgeon." Heilbrun patents, col.3 ll.6-10.

Medtronic manufactures and sells image-guided surgery products. BrainLab also manufactures and sells those types of products, including its VectorVision, Kolibri, BrainSuite and ExacTrac products. In May 1998, Medtronic filed a patent infringement action against BrainLab. After several amended complaints, Medtronic asserted that BrainLab's products infringe the '454, '056, and Heilbrun patents. The court held a Markman hearing and issued its claim construction ruling on September 29, 2004. Surgical Navigation Techs., Inc. v. BrainLab Medizinische Computersys. GmbH, Civ. No. 98-1072, slip op. at 1-28 (D. Colo. Sep. 29, 2006) ("Claim Construction Op."). Thereafter, BrainLab moved for summary judgment of noninfringement as to the '454 and '056 patents, which the court denied.

A thirteen-day jury trial began on September 12, 2005. At trial, Medtronic asserted that the accused products infringe claim 14 of the '454 patent, claim 1 of the '056 patent, and claim 1 of the Heilbrun patents. Before the close of Medtronic's case-in-chief, the court granted judgment as a matter of law in favor of BrainLab on Medtronic's willful infringement claim. As to the remaining claims, the jury returned a special verdict on September 30, 2005. The jury found infringement of claim 14 of the '454 patent and claim 1 of the '056 patent under the doctrine of equivalents, and awarded \$50 million in damages. The jury further found infringement of claim 1 of the Heilbrun patents, and awarded an additional \$1 million in damages. The jury rejected BrainLab's invalidity challenges.

Following the jury verdict, BrainLab moved for judgment as a matter of law pursuant to Rule 50(b) asserting that its products do not infringe any of the patents, and also moved for a new trial. Medtronic moved for entry of judgment, an award of prejudgment interest, and a permanent injunction. In a well-reasoned opinion, the district court denied all of Medtronic's motions and granted BrainLab's motion for judgment as a matter of law, thereby setting aside the jury's verdict of infringement as to all four patents. Medtronic Navigation, Inc. v. BrainLab Medizinische Computersys. GmbH, 417 F.Supp. 2d 1188 (D. Colo. 2006).

Medtronic timely appealed. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

#### DISCUSSION

A motion for judgment as a matter of law raises a procedural issue that is not unique to patent law, and thus is "reviewed under the law of the regional circuit in which the appeal from the district court would usually lie." Summit Tech. Inc. v. Nidek Co., 363 F.3d 1219, 1223 (Fed. Cir. 2004). In the Tenth Circuit, the Court of Appeals exercises de novo review over a district court's disposition of a motion for judgment as a matter of law, using the same standard as the district court. Snyder v. City of Moab, 354 F.3d 1179, 1184 (10th Cir. 2003). In line with the deference traditionally accorded to jury verdicts, Burton v. R.J. Reynolds Tobacco Co., 397 F.3d 906, 914 (10th Cir. 2005), judgment as a matter of law is only appropriate when "the evidence points but one way and is susceptible to no reasonable inferences supporting the party opposing the motion." Snyder, 354 F.3d at 1184. In reviewing the record, the court considers "the evidence, and any inferences drawn therefrom, in favor of the non-moving party."

Johnson v. Unified Gov't of Wyandotte County/Kan. City, Kan., 371 F.3d 723, 728 (10th Cir. 2004).

On appeal, Medtronic argues that the district court erred by granting BrainLab's motion for judgment as a matter of law asserting that (1) the court erred in its claim construction of three disputed terms, (2) BrainLab's products literally infringe the asserted claims under the correct claim constructions as advanced by Medtronic, (3) prosecution history estoppel did not preclude Medtronic from asserting infringement under the doctrine of equivalents as to the '454 patent, and (4) substantial evidence supports the jury's finding of infringement as to all four patents. With regard to claim construction, Medtronic asserts that the court incorrectly construed the following claim limitations: (1) "reference means" of claim 14 of the '454 patent, (2) "establishing the spatial relationship" of claim 1 of the '056 patent, and (3) "workspace coordinate framework" of claim 1 of the Heilbrun patents. BrainLab responds that the court did not err in granting its motion for judgment of noninfringement as a matter of law, arguing that the court properly construed the disputed claim terms, prosecution history estoppel does apply as to the '454 patent, and that there was insufficient evidence to support the jury's verdict of infringement.

With regard to claim construction, we conclude that the district court did not err in construing the claim terms at issue. The court construed the first disputed term "reference means" as "an array of microphones," rejecting Medtronic's proposed construction of "one or more sensor(s) or receiver(s)." As the court correctly noted, the specification consistently describes the use of "arrays" to detect sound emissions transmitted from emitters located on the base ring (or head) and the surgical probe as

part of the process of determining the position of the probe. '454 patent, col.5 ll.30-35, col.6 ll.8-35, col.7 ll.2-35 & Figs. 3A-3B. Indeed, the specification describes that key component of the invention in terms of a “microphone array” or “microphones of the array,” and does not describe it in terms of “sensors” or “receivers,” as Medtronic contends. The court also rejected Medtronic’s claim differentiation argument. We find no error in the court’s analysis and thus affirm that term’s construction.

The relevant issue on appeal with respect to the second disputed term, “establishing the spatial relationship,” is whether the district court properly excluded “the use of an optical reference system” from its construction. Claim Construction Op. at 7. Referencing the specification, the district court noted that the specification describes “an acoustic or ultrasonic range finding system” as well as “an electromagnetic position and orientation system” to track the movement of an object. Id. at 6 (citing '056 patent, col.6 l.48-col.11 l.18, col.11 l.18-col.12 l.32). The court further noted that although the specification mentions the use of an optical system, the statements were “too general in nature” to support Medtronic’s broad proposed construction. Id.

We agree with the district court’s reasoning. Similar to the '454 patent, the specification of the '056 patent discloses that the spatial relationship is established by using an acoustic tracking system or an “ultrasonic range finder or reference system” that uses spark gaps that emit “energy in the form of sound pulses which are received by (at least) three microphones.” Id. col.6 ll.48-58. The specification also describes in detail the use of “an electromagnetic position and orientation system.” Id. col.11 ll.18-20. Medtronic’s argument for inclusion of an optical tracking system is largely premised

on a single statement that appears in the specification, i.e., that “[a]n optical system can be used as an alternative to the acoustic system described earlier.” Id. col.12 ll.33-34.

We agree with the district court that this passing reference to an optical tracking system fails to support an interpretation broader than that adopted by the court. A claim is to be construed in light of the written description that supports it. Phillips v. AWH Corp., 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc). And it is true that the minimal one sentence reference to an optical tracking system is a mention of an optical tracking system. However, the remainder of the specification describes acoustic systems. There is no enabling description of how to make and use an optical tracking system, and claims are best construed to preserve their validity. Tate Access Floors, Inc. v. Interface Architectural, 279 F.3d 1357, 1369 (Fed. Cir. 2002); see also Modine Mfg. Co. v. U.S. Int’l Trade Comm’n, 75 F.3d 1545, 1557 (Fed. Cir. 1996) (overruled on other grounds); Athletic Alternatives, Inc. v. Prince Mfg., Inc., 73 F.3d 1573, 1581 (Fed. Cir. 1996). Because this case is one in which ambiguity as to the scope of the claim language can be “resolved in a manner that would preserve the patent’s validity,” Phillips, 415 F.3d at 1327, that principle can properly be applied here. Moreover, the inventor himself stated, in answer to a series of questions regarding whether an optical tracking unit was available to him at the time of his invention of the acoustic system that “[w]e weren’t aware of any commercial optical tracking system that was available” and “[i]t seemed at the time that this would be an obvious development, that it would be coming in time. It was just that at this time that we were writing this, that such a system wasn’t available to us.” J.A. at 6562 (emphasis added). Thus, rather than being a disclosure of an optical system sufficient to support an interpretation of a claim as

including an optical system, it was merely “an attempt to preempt the future before it has arrived.” Fiers v. Revel, 984 F.2d 1164, 1171 (Fed. Cir. 1993). Such a minimal dropping of an unenabled reference to an undeveloped system does not support a claim to it. We accordingly conclude that the court did not err by excluding an optical tracking system from its claim construction.

With regard to the last disputed claim term, the district court construed “workspace coordinate framework,” which appears in claim 1 of the Heilbrun patents, as “a static or immovable coordinate system centered in the workspace that must be re-established if one or more of the cameras are moved.” Claim Construction Op. at 25. The court noted that the specification explains that the workspace coordinate framework is a three-dimensional reference system that is “computed from two digitized 2-dimensional images of the fiducial structure 220 provided respectively by cameras 200, 202, plus the known location parameters of fiducial points on fiducial structure 220.” Id. at 24-25 (citing Heilbrun patents, col.6 ll.32-37). The court further noted that, based on the specification, once the framework is established, the fiducial structure can be removed and the instrument can be tracked “so long as the cameras remain fixed in their positions relative to the workspace.” Id. at 25. Importantly, the specification discloses that “[i]f it is desired to select new locations for making the image pairs . . . all that need be done is to reposition the fiducial structure in the workspace to make a new pair of calibration images.” Id.; Heilbrun patents, col.13 ll.40-44. That statement supports the district court’s conclusion that the coordinate framework is a static one that must be reestablished if the cameras move.

Because we find no error in the district court's construction of the disputed terms, and find Medtronic's arguments unpersuasive, we affirm on claim construction and reject Medtronic's unsupported assertion that the accused products literally infringe the patents in suit.

We also agree with the district court's conclusion that Medtronic was precluded by prosecution history estoppel from asserting infringement of the '454 patent under the doctrine of equivalents. The district court noted that the examiner rejected all twenty-five of the original claims that were included in the '454 patent application as anticipated under 35 U.S.C. § 102 and not in compliance with paragraphs 1 and 2 of § 112. In response, Bucholz made several statements during prosecution in order to overcome the rejections. Bucholz also amended his claim to include the "reference means" and added an additional step to the claim. Medtronic asserts that Bucholz's statements and the amendment fail to establish a clear disavowal or surrender of subject matter. We disagree. Based on the prosecution history, we agree with the district court's reasoning and conclude that Bucholz clearly narrowed the scope of his invention in exchange for the allowance of his claims, thus surrendering subject matter that encompasses what Medtronic now claims to be equivalent. We therefore agree with the district court that Medtronic was precluded from arguing that the passive optical tracking system used in BrainLab's products is an equivalent of the claimed reference means.

As to the remaining patents, we agree with BrainLab that the district court properly granted judgment of noninfringement of the '056 and Heilbrun patents as a matter of law. In setting aside the jury's verdict of infringement under the doctrine of equivalents as to the '056 patent, the court determined that there was not substantial

evidence establishing that BrainLab's optical tracking system functions in substantially the same "way" as required by the function-way-result test in a doctrine of equivalents analysis. The court determined that Medtronic failed to present specific testimony that compared the passive optical system to the disclosed acoustic and electromagnetic systems. Moreover, the court found that the evidence in the record supported the opposite conclusion, viz., that the differences between the acoustic and optical tracking systems were not insubstantial. Viewing the evidence in a light most favorable to Medtronic, we agree with the district court's conclusion. Accordingly, we find no error in the court's decision.

Finally, we affirm the district court's grant of judgment as a matter of law that BrainLab's products do not infringe the Heilbrun patents, either literally or under the doctrine of equivalents. In setting aside the jury verdict of literal infringement, the district court concluded that the evidence did not support a finding that the accused products meet the "establishing a workspace coordinate framework" limitation. In particular, the court determined that the evidence failed to establish that two particular structures in the VectorVision and ExacTrac systems, i.e., the Mayfield star and the isocenter phantom, respectively, serve as the "fiducial means" that is required by the claim to establish the workspace coordinate framework.

As to infringement under the doctrine of equivalents, the district court noted that Medtronic's expert, Dr. Taylor, only addressed literal infringement at trial. The court found that Medtronic failed to present particularized testimony establishing that the VectorVision and ExacTrac products are equivalent to the claimed product. As such, the court determined that the jury's verdict of noninfringement under the doctrine of

equivalents had to be set aside. Thus, viewing the evidence in a light most favorable to Medtronic, we conclude that the court did not err in reaching its conclusion. Medtronic fails to convince us otherwise. Accordingly, we affirm the court's grant of judgment of noninfringement as to the Heilbrun patents as a matter of law.

We have considered all of the remaining arguments Medtronic raised in its briefs and found none that justify a reversal. Having concluded that the district court properly granted judgment as a matter of law in favor of BrainLab, we need not address the issue of willful infringement. Accordingly, the district court's decision is affirmed.