

United States Court of Appeals for the Federal Circuit

IN RE: WARSAW ORTHOPEDIC, INC.,
Appellant

2015-1050, 2015-1058

Appeals from the United States Patent and Trade-
mark Office, Patent Trial and Appeal Board in Nos.
IPR2013-00206 and IPR2013-00208.

Decided: August 9, 2016

JOHN C. O'QUINN, Kirkland & Ellis LLP, Washington,
DC, argued for appellant. Also represented by WILLIAM H.
BURGESS, BRIAN H. GOLD; LUKE DAUCHOT, STEVEN
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MONICA BARNES LATEEF, Office of the Solicitor, United
States Patent and Trademark Office, Alexandria, VA, argued
for intervenor Michelle K. Lee. Also represented by THOMAS
W. KRAUSE, STACY BETH MARGOLIES, SCOTT
WEIDENFELLER.

Before PROST, *Chief Judge*, BRYSON and WALLACH, *Circuit
Judges*.

WALLACH, *Circuit Judge*.

Based on two petitions filed by NuVasive, Inc. (“NuVasive”), the United States Patent and Trademark Office’s (“USPTO”) Patent Trial and Appeal Board (“PTAB”) instituted inter partes reviews of claims 1–30 of U.S. Patent No. 8,251,997 (“the ’997 patent”). In separate Final Written Decisions, the PTAB found claims 1–8 and 17–23 obvious and therefore invalid. *See NuVasive, Inc. v. Warsaw Orthopedic, Inc. (NuVasive I)*, No. IPR2013-00208, 2014 WL 3422010 (P.T.A.B. July 10, 2014) (addressing claims 1–8); *NuVasive, Inc. v. Warsaw Orthopedic, Inc. (NuVasive II)*, No. IPR2013-00206, 2014 WL 3422008 (P.T.A.B. July 10, 2014) (addressing claims 9–30).

Warsaw Orthopedic, Inc. (“Warsaw”), the assignee of the ’997 patent, appeals.¹ We affirm-in-part, vacate-in-part, and remand.

DISCUSSION

I. Subject Matter Jurisdiction and Standard of Review

This court possesses subject matter jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A) (2012). We review the PTAB’s legal conclusions de novo, *Redline Detection, LLC v. Star Envirotech, Inc.*, 811 F.3d 435, 449 (Fed. Cir. 2015), and its factual findings for substantial evidence, *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). “Substantial evidence is something less than the weight of the evidence but more than a mere scintilla of evidence.” *In re Moutett*, 686 F.3d 1322, 1331 (Fed. Cir. 2012).

¹ NuVasive initially appealed several aspects of the PTAB’s decisions, but later terminated its appeal (No. 2015-1049) and withdrew from Warsaw’s appeals (Nos. 2015-1050 and -1058). We permitted the USPTO to participate in oral argument in defense of the PTAB’s decisions.

II. Substantial Evidence Supports Some, But Not All, of the PTAB's Obviousness Findings

A patent claim is invalid “if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art [(‘PHOSITA’)] to which said subject matter pertains.” 35 U.S.C. § 103(a) (2006).² Obviousness is a question of law based on underlying findings of fact. *Gartside*, 203 F.3d at 1316. The underlying factual findings include (1) “the scope and content of the prior art,” (2) “differences between the prior art and the claims at issue,” (3) “the level of ordinary skill in the pertinent art,” and (4) the presence of secondary considerations of nonobviousness such “as commercial success, long felt but unsolved needs, [and] failure of others.” *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966).

Warsaw contests the PTAB’s findings that claims 1–8 and 17–23 of the ’997 patent would have been obvious over various prior art references. We address the claims in turn.

A. The ’997 Patent

A brief review of the anatomy of the human spine will provide the context necessary to understand the invention disclosed in the ’997 patent. A human spine contains twenty-four vertebrae divided over three regions: seven cervical (neck), twelve thoracic (chest), and five lumbar

² Congress amended § 103 when it passed the Leahy-Smith America Invents Act (“AIA”). Pub. L. No. 112-29, § 3(c), 125 Stat. 284, 287 (2011). However, because the application that led to the ’997 patent was filed before March 16, 2013, the pre-AIA § 103 applies. *Id.* § 3(n)(1), 125 Stat. at 293.

(lower) vertebrae. Each vertebra has three parts, including a body. A vertebral body has three components: the “endplate,” which is at the center and contains blood vessels, as well as the “apophyseal ring” (tracing the circumference of a vertebral body) and the “cortical rim” (constituting the edge of the vertebral body), which are made of dense bone and do not contain blood vessels. Discs occupy the space between the vertebrae, absorbing shock.

The '997 patent relates to spinal surgery that “insert[s] an artificial implant between two adjacent vertebrae” from a patient’s side. '997 patent, Abstract. In particular, the '997 patent discloses “instrumentation and methods of performing surgical procedures on the human thoracic and lumbar spine along the lateral aspect [(i.e., side)] of the spine” to correct “thoracic and lumbar disc disease and spinal deformities where concomitant fusion is desired.” *Id.* col. 1 ll. 17–23. The lateral approach to spinal surgery disclosed by the '997 patent seeks to avoid complications that may arise when the surgery is performed anteriorly or posteriorly (i.e., from the front or back of a patient). *Id.* col. 3 ll. 22–23.

The '997 patent contains four independent claims—including claims 1 and 17—and twenty-six dependent claims. *Id.* col. 22 l. 47–col. 28 l. 37. Independent claims 1 and 17 follow a similar structure: they recite a method that begins with an incision in the patient’s side, followed by steps of advancing specific instruments into the surgical path and inserting an implant between the vertebrae to be fused. *See id.* col. 22 l. 47–col. 23 l. 39 (claim 1); *id.* col. 25 l. 18–col. 26 l. 24 (claim 17). In relevant part, independent claim 1 recites

[i]nserting . . . a non-bone interbody intraspinal implant . . . , the *length* of said implant being sized to occupy *substantially the full transverse width of the vertebral bodies* of the two adjacent

vertebrae, the *length* of said implant being greater than the depth of the disc space, . . . [and] the *length* of said implant being greater than the maximum height of said implant.

Id. col. 23 ll. 19–39 (emphases added). Independent claim 17 recites nearly identical language. *Id.* col. 26 ll. 3–24 (claim 17). The “length” is measured laterally, consistent with the direction of the insertion, from the “insertion end” to the “trailing end.” See, e.g., *id.* col. 23 ll. 24–26 (claim 1). These appeals principally concern the length of the implant recited in the ’997 patent’s independent claims.³

B. Substantial Evidence Supports the PTAB’s Findings as to Brantigan and the Motivation to Combine Prior Art References

The PTAB found that claims 1 and 17 of the ’997 patent would have been obvious over a combination of three prior art references: U.S. Patent Nos. 4,545,374 (“Jacobson”) and 5,192,327 (“Brantigan”); and Hansjorg F. Leu & Adam Schreiber, *Percutaneous Fusion of the Lumbar Spine: A Promising Technique*, St. Art Revs., Sept. 1992, at 593–604 (“Leu”) (J.A. 493–506). See *NuVasive I*, 2014

³ Claims 2–8 and 18–23 depend from independent claims 1 and 17, respectively. See ’997 patent col. 23 ll. 40–59 (claims 2–8); *id.* col. 26 ll. 25–42 (claims 18–23). Warsaw does not argue the merits of the dependent claims separately or attempt to distinguish them from prior art. Therefore, the dependent claims stand or fall with their attendant independent claim. See, e.g., *In re Kaslow*, 707 F.2d 1366, 1376 (Fed. Cir. 1983) (“Since the claims are not separately argued, they all stand or fall together.” (citation omitted)).

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