

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MAKO SURGICAL CORP.,
Petitioner,

v.

BLUE BELT TECHNOLOGIES, INC.,
Patent Owner.

Case IPR2015-00630
Patent 6,205,411 B1

Before SALLY C. MEDLEY, KEVIN F. TURNER, and
WILLIAM M. FINK, *Administrative Patent Judges*.

TURNER, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Petitioner, Mako Surgical Corporation, filed a Petition requesting an *inter partes* review of claims 1–17 of U.S. Patent No. 6,205,411 B1 (Ex. 1001, “the ’411 Patent”). Paper 2 (“Pet.”). Patent Owner, Blue Belt Technologies, Inc., did not file a Preliminary Response. We have

jurisdiction under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

For the reasons that follow, we institute an *inter partes* review of claims 1–17 of the ’411 Patent.

A. Related Proceeding

The ’411 Patent is involved in the following lawsuit: *Mako Surgical Corp. v. Blue Belt Technologies, Inc.*, No. 0:14-cv-61263-MGC (S.D. Fla.). Pet. 1; Paper 5, 2.

B. The ’411 Patent

The ’411 Patent relates to an apparatus for facilitating the implantation of an artificial component of a body joint. Ex. 1001, Abstract. The Specification of the ’411 patent describes a system that provides a medical practitioner with a tool to precisely determine an optimally size and position of the artificial components in a joint to provide the desired range of motion of the joint following surgery. *Id.* at 4:66–5:2. The apparatus includes geometric pre-operative planner 12, that is used to create geometric models of the joint and the components to be implanted based on geometric data received from a skeletal structure data source 13, and is interfaced with pre-operative kinematic biomechanical simulator 14, that simulates movement of the joint using the geometric models for use in determining

implant positions, including angular orientations, for the components. *Id.* at 5:63–6:5.

C. Illustrative Claim

Claims 1, 10, and 17 are independent claims. Claims 2–9 directly or indirectly depend from claim 1, and claims 11–16 directly depend from independent claim 10. Claim 1 is reproduced below.

1. An apparatus for facilitating the implantation of an artificial component in one of a hip joint, a knee joint, a hand and wrist joint, an elbow joint, a shoulder joint, and a foot and ankle joint, comprising:

a pre-operative geometric planner; and

a pre-operative kinematic biomechanical simulator in

communication with said pre-operative geometric planner wherein said pre-operative geometric planner outputs at least one geometric model of the joint and the pre-operative kinematic biomechanical simulator outputs a position for implantation of the artificial component.

Ex. 1001, 13:16–27.

D. Asserted Grounds of Unpatentability

Petitioner asserts that claims 1–17 are unpatentable based on the following grounds¹:

¹ Petitioner alleges that claims 1-17 are obvious over DiGioia II and other references, Pet. 29; a review of the actual discussion of the grounds, Pet. 28–46, however, reveals that Petitioner is not alleging obviousness of claims 1, 2, and 4–8 over DiGioia II, only anticipation.

Reference(s)	Basis	Challenged Claim(s)
DiGioia I ²	§ 103(a)	1–15 and 17
DiGioia I and DiGioia II ³	§ 103(a)	16
DiGioia II	§ 102(b)	1, 2, and 4–8
DiGioia II and O’Toole ⁴	§ 103(a)	3, 10–12, 15, and 16
DiGioia II and Taylor ⁵	§ 103(a)	9
DiGioia II, O’Toole, and Taylor	§ 103(a)	13 and 14
DiGioia II, Chao ⁶ , and O’Toole	§ 103(a)	17

II. ANALYSIS

A. Claim Interpretation

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see also see also In re Cuozzo Speed Techs., LLC*, No. 2014-1301, 2015 WL 4097949, *7-8 (Fed. Cir. July 8, 2015) (“Congress implicitly approved the broadest reasonable

² A.M. DiGioia et al., “HipNav: Pre-operative Planning and Intra-operative Navigational Guidance for Acetabular Implant Placement in Total Hip Replacement Surgery,” 2nd CAOS Symposium, 1996 (Ex. 1005) (“DiGioia I”).

³ A.M. DiGioia et al., “An Integrated Approach to Medical Robotics and Computer Assisted Surgery in Orthopaedics,” PROC. 1ST INT’L SYMPOSIUM ON MEDICAL ROBOTICS AND COMPUTER ASSISTED SURGERY, pp. 106–111, 1995 (Ex. 1006) (“DiGioia II”).

⁴ R.V. O’Toole et al., “Towards More Capable and Less Invasive Robotic Surgery in Orthopaedics,” COMPUTER VISION, VIRTUAL REALITY AND ROBOTICS IN MEDICINE LECTURE NOTES IN COMPUTER SCIENCE, Vol. 905, pp. 123–130, 1995 (Ex. 1008) (“O’Toole”).

⁵ Taylor, et al., “An Image-Directed Robotic System for Precise Orthopaedic Surgery,” IEEE TRANSACTIONS ON ROBOTICS AND AUTOMATION, Vol. 10, No. 3, June 1994 (Ex. 1009) (“Taylor”).

⁶ E.Y.S. Chao et al., “Simulation and Animation of Musculoskeletal Joint System,” TRANSACTIONS OF THE ASME, Vol. 115, pp. 562–568, Nov. 1993 (Ex. 1007) (“Chao”).

interpretation standard in enacting the AIA,” and “the standard was properly adopted by PTO regulation.”). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Petitioner proposes no specific constructions for any claim terms. Therefore, for the purposes of this decision, and on this record, we determine that no claim term needs express interpretation. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (only those terms which are in controversy need to be construed, and only to the extent necessary to resolve the controversy).

B. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter 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 to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In that regard, an obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for

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