Trials@uspto.gov
571-272-7822

Paper 10
Date Entered: August 3, 2015

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BLUE BELT TECHNOLOGIES, INC.,
Petitioner,

v.

ALL-OF-INNOVATION GMBH,
Patent Owner.

Case IPR2015-00765
Patent 7,346,417 B2

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

FINK, *Administrative Patent Judge.*

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

I. INTRODUCTION

Petitioner, Blue Belt Technologies, filed a Petition requesting an *inter partes* review of claims 1, 3, 5–7, 9, 10, 16, 17, 21, 26, 40, 45, 56, and 57 of U.S. Patent No. 7,346,417 B2 (Ex. 1001, "the '417 patent"). Paper 1 ("Pet."). Patent Owner, All-Of-Innovation GmbH, filed a Preliminary

Response. Paper 9 ("Prelim. Resp."). 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, 3, 5–7, 9, 10, 16, 17, 21, 26, 40, 45, 56, and 57 of the '417 patent.

A. Related Proceeding

According to Petitioner, the '417 patent is involved in at least the following lawsuit: *Mako Surgical Corp. v. Blue Belt Techs., Inc.*, Case No. 14-cv-61263 (S.D. Fla.), filed May 30, 2014. Pet. 1–2.

B. The '417 Patent

The '417 patent relates to a method and system for removing tissue or other material in dentistry or surgery. Ex. 1001, 1:7–10, 6:12–19. Figure 1 is reproduced below:

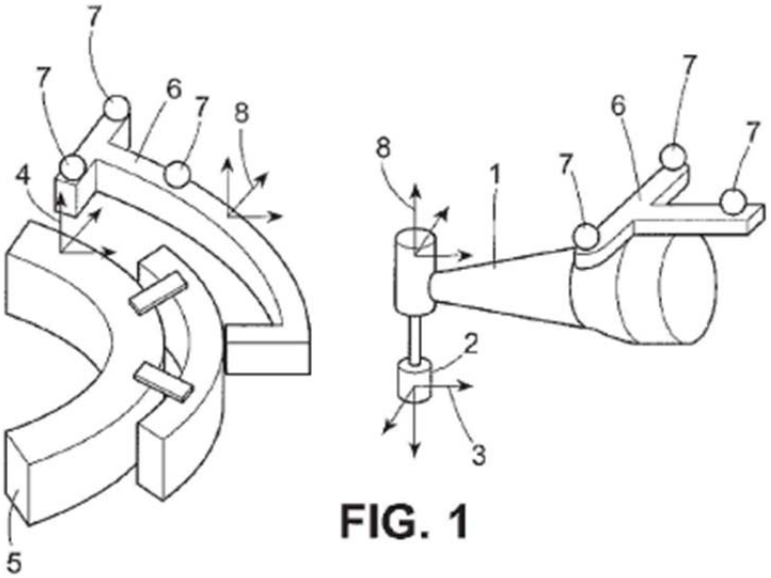

FIG. 1

Figure 1 illustrates a medical instrument with a tissue-removing effector 2 in a position and orientation relative to a reference position of tissue object 5, in accordance with the invention. Ex. 1001, 8:50–53. The effector can be implemented as a saw blade, cutter, drill, laser, etc., which can be powered on or off according to the position of the effector relative to the reference position of the tissue object. *Id.* at 8:53–65. The effector may have one or more markers 7, such as glass spheres, secured in a fixed position relative to the effector on marker support 6. *Id.* at 8:65–9:5. In general, the markers are a set of points whose position relative to a position coordinate system can be determined. *Id.* at 9:5–10. Various measurement methods, including optical, acoustical, electromagnetic, etc., can be used. *Id.* at 9:10–15. A physician or dentist uses information obtained from, e.g., an X-RAY or CT-image, to plan a cut volume to allow fitted pieces to be integrated within the fitted shape of the residual tissue volume. *Id.* at 9:33–60; 10:8–12; 12:60–65. Importantly, the invention prevents accidental tissue removal outside the fitted shape by powering off the effector when its position is outside of the cutting geometry. *Id.* at 13:17–28.

C. Illustrative Claim

Claims 1 and 40 are independent claims. Claims 3, 5–7, 9, 10, 16, 17, 21, and 26 directly or indirectly depend from claim 1, and claims 45, 56, and 57 directly or indirectly depend from claim 40. Claim 1 is reproduced below.

> 1. A method for removing and processing material with at least one effector, wherein the effector defines a volume and has a predetermined geometry, the method comprising:

> removing and processing material from an object with the effector, wherein the removing and processing comprises:
>
> > manually guiding the effector in relation to the object;
> >
> > determining, using a navigation system, position and orientation of the effector in relation to at least one reference body as the effector removes material from the object;
> >
> > storing data representative of the position and orientation of the effector in relation to the reference body as the effector removes the material from the object; and
> >
> > supplying at least one of power and parameterization control commands to the effector as a function of at least one of a predetermined work volume for the object, volume of the material removed from the object and volume of residual material in the work volume, wherein the removed material volume and the residual material volume are determined based on the volume and the geometry of the effector and the position and orientation of the effector data.

Ex. 1001, 17:40–63.

D. Asserted Grounds of Unpatentability

Petitioner asserts that claims 1, 3, 5–7, 9, 10, 16, 17, 21, 26, 40, 45, 56, and 57 are unpatentable based on the following grounds (Pet. 7):

References	Basis	Challenged Claims
Mushabac[1] and Klimek[2]	§ 103(a)	1, 3, 5–7, 9, 10, 16, 17, 21, 26, 40, 45, 56, and 57
Harris[3]	§ 103(a)	1, 3, and 21
Harris and Taylor[4]	§ 103(a)	1, 3, 5–7, 9, 10, 16, 17, 21, 26, 40, 45, 56, and 57
Harris, Taylor, and Klimek	§ 103(a)	45

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 In re Cuozzo Speed Techs., LLC*, No. 2014–1301, 2015 WL 4097949, at *7–8 (Fed. Cir. July 8, 2015) ("Congress implicitly approved the broadest reasonable 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

---

[1] U.S. Patent No. 5,562,448, issued Oct. 8, 1996 (Ex. 1004) ("Mushabac").
[2] Klimek, et al., "A Passive-Marker-Based Optical System for Computer-Aided Surgery in Otorhinolaryngology: Development and First Clinical Experiences," *The Laryngoscope*, Vol. 109, pp. 1509–1515, Sept. 1999 (Ex. 1005) ("Klimek").
[3] Harris, et al., "Experiences with Robotic Systems for Knee Surgery," *Lecture Notes in Computer Science*, Vol. 1205, pp. 757-766, 1997 (Ex. 1006) ("Harris").
[4] Taylor, et al., "An Image-Directed Robotic System for Precise Orthopaedic Surgery," *IEEE Transactions on Robotics and Automation*, Vol. 10, No. 3, pp. 261-275, June 1994 (Ex. 1007) ("Taylor").

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.