

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

US ENDODONTICS, LLC,  
Petitioner

v.

GOLD STANDARD INSTRUMENTS, LLC,  
Patent Owner

---

Case No. IPR2015-00632  
U.S. Patent No. 8,727,773 B2

---

**PETITION FOR *INTER PARTES* REVIEW**

Mail Stop PATENT BOARD  
Patent Trial and Appeal Board  
US Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
*Submitted Electronically via the Patent Review Processing System*

**GOLD STANDARD EXHIBIT 2009**  
*US ENDODONTICS v. GOLD STANDARD*

## TABLE OF CONTENTS

	Page
I. Mandatory Notices (37 C.F.R. § 42.8).....	1
A. Real Party-in-Interest.....	1
B. Related Matters.....	1
C. Counsel and Service Information.....	1
D. Power of Attorney .....	2
II. Payment of Fees (37 C.F.R. § 42.103) .....	2
III. Background and Summary of the '773 Patent .....	2
IV. Requirements for <i>Inter Partes</i> Review (37 C.F.R. § 42.104).....	5
A. Grounds for Standing (37 C.F.R. § 42.104(b)(1)) .....	5
B. Identification of Challenged Claims and Specific Statutory Grounds (37 C.F.R. § 42.104(b)(1)-(2)).....	5
C. Claim Construction (37 C.F.R. § 42.104(b)(3)) .....	6
1. “heat-treating the entire shank”/ “entire instrument shank” .....	6
2. “wherein the heat treated shank has an angle greater than 10 degrees of permanent deformation after torque at 45 [°/degrees] of flexion when tested in accordance with ISO Standard 3630-1”.....	7
3. “permanent deformation” .....	14
4. “diameter of 0.5 to 1.6 millimeters”.....	14
V. Effective Filing Date of the Challenged Claims .....	15
A. Prior Applications in the '773 Patent Family Do Not Support Heat Treatment in a Reactive Atmosphere .....	16
B. Additional Reasons That the Challenged Claims Cannot Claim Priority to Earlier Applications.....	19
VI. How the Claims Are Unpatentable Under 37 C.F.R. § 42.104(b)(4).....	20
A. Level of Skill in the Art.....	20
B. Ground 1: Anticipation of Claims 1-17 by Luebke 2008 .....	21

## TABLE OF CONTENTS

(continued)

	<b>Page</b>
C. Ground 2: Anticipation of Claims 1-7 and 9-12 by Gao; Ground 3: Obviousness of Claims 8 and 13-17 in View of Gao and ISO 3630-1 .....	23
1. Overview of Gao.....	24
2. Overview of ISO 3630-1.....	24
3. Anticipation of Claims 1-7 and 9-12; Obviousness of Claims 8 and 13-17.....	24
D. Ground 4: Obviousness of Claims 1-17 in Further View of Khier .....	28
E. Ground 5: Anticipation of Claims 1, 2 and 9-12 by Kuhn; Ground 6: Obviousness of Claims 8, 13, 15 and 17 in View of Kuhn and ISO 3630-1 .....	28
1. Overview of Kuhn .....	29
2. Anticipation of Claims 1, 2, and 9-12; Obviousness of Claims 8, 13, 15 and 17 .....	29
F. Ground 7: Obviousness of Claims 1-17 in View of Kuhn, ISO 3630-1, Pelton and McSpadden .....	34
1. Overview of McSpadden .....	34
2. Overview of Pelton.....	34
3. Obviousness of Claims 1-17.....	35
G. Grounds 8 and 9: Obviousness of Claims 1-17 in Further View of Khier .....	43
H. Ground 10: Obviousness of Claims 1-17 in View of McSpadden, Miyazaki, and ISO 3630-1 .....	43
1. Overview of Miyazaki.....	43
2. Obviousness of Claims 1-17.....	45
I. Ground 11: Obviousness of Claims 1-17 in View of Matsutani, Pelton, and ISO 3630-1 .....	49
1. Overview of Matsutani.....	49
2. Obviousness of claims 1-17.....	51
J. Ground 12: Obviousness of Claims 1-17 in Further View of Khier.....	58

**TABLE OF CONTENTS**  
(continued)

	<b>Page</b>
K. The Grounds in This Petition Are Not Redundant .....	58
VII. Conclusion .....	60

## LISTING OF EXHIBITS

Exhibit #	Exhibit Description
1001	U.S. Patent No. 8,727,773 B2 (the “773 patent”)
1002	Declaration of A. Jon Goldberg
1003	Harmeet Walia et al., <i>An Initial Investigation of the Bending and Torsional Properties of Nitinol Root Canal Files</i> , 14 J. ENDODONTICS 346 (1988) (“Walia”)
1004	Fujio Miura et al., <i>The super-elastic property of the Japanese NiTi alloy wire for use in orthodontics</i> , 90 AM. J. ORTHODONTICS & DENTOFACIAL ORTHOPEDICS 1 (1986) (“Miura”)
1005	Satish B. Alapati, “An investigation of phase transformation mechanisms for nickel-titanium rotary endodontic instruments,” PhD thesis, 2006. (“Alapati”)
1006	Alan R. Pelton et al., <i>Optimisation of Processing and Properties of Medical-Grade Nitinol Wire</i> , 9 Minimally Invasive Therapies & Allied Techs. 107 (2000) (“Pelton”);
1007	U.S. Patent No. 5,697,906 to Ariola et al.
1008	Prosecution history of the ’773 patent
1009	Prosecution history of U.S. Patent No. 8,062,033
1010	Prosecution history of U.S. Patent No. 8,562,341
1011	US. Provisional Patent Application No. 60/578,091
1012	U.S. Patent Application Publication No. 2008/0032260 A1, Luebke (“Luebke 2008”)
1013	Prosecution history of U.S. Patent No. 8,083,873
1014	U.S. Patent Application Publication No. 2011/0271529 A1, Gao et al. (“Gao”)
1015	U.S. Provisional Patent Application No. 61/332,954

# 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.