

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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US ENDODONTICS, LLC,  
Petitioner,

v.

GOLD STANDARD INSTRUMENTS, LLC,  
Patent Owner.

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Case IPR2015-00632  
Patent 8,727,773 B2

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**DECLARATION OF ROBERT SINCLAIR, PH.D.**

**GOLD STANDARD EXHIBIT 2026**  
*US ENDODONTICS v. GOLD STANDARD*

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I, Robert Sinclair, Ph.D., hereby declare and state that:

1. I make the following declaration based on my knowledge and belief.

### **Education and Professional Background**

2. I received a B.A. in Materials Science in 1968 and a Ph.D. in Materials Science in 1972, both from Cambridge University. After receiving my Ph.D., I worked from 1973-1977 as a Postdoctoral Research Engineer at the University of California, Berkeley.

3. Since 1977, I have been employed at Stanford University in Stanford, California, where I have successively served as Assistant Professor in Materials Science and Engineering (1977-1980), Associate Professor with tenure in Materials Science and Engineering (1980-1984) and Professor of Materials Science and Engineering (1984 to Present). In 2009, I was appointed the Charles M. Pigott Professor in the School of Engineering at Stanford University.

4. From 2004-2014, I served as the chair of the Materials Science and Engineering Department at Stanford University. From 2002 to 2013, I was the Director of the Stanford Nanocharacterization Laboratory, and from 2010-2012, I was the Director of the Bing Overseas Studies Program at Stanford University. I have had a number of appointments as a Visiting Professor at institutions around the world, including the HREM Laboratory at Cambridge University in the United Kingdom and Matsushita Electric Industrial Company in Japan.

5. I have authored more than 240 scientific research papers, published over 200 articles at national and international scientific meetings, and made over 500 presentations at conferences, university departments, and research laboratories world-wide. My publications, which are listed on my *curriculum vitae* attached hereto as Exhibit A, are in the areas of materials science, and include investigations on the properties of nickel-titanium alloys. I have also authored and/or edited several books and book chapters, and I hold two patents.

6. I have served as a member on the Editorial Board for the Journal of Applied Physics (1994-1996) and the Journal of Electron Microscopy (1996-present), among other journals. I routinely review articles for scholarly journals.

7. I have taught more than 6,000 students in undergraduate and graduate courses, including, among others, Introduction to Materials Science; Imperfections in Crystalline Solids; Atomic Arrangements in Solids; Nanostructure and Characterization; X-ray Diffraction Laboratory; Nano-Characterization of Materials; Transmission Electron Microscopy; and Microscopic World of Technology.

8. My current research interests are in the structure-property-processing correlations in materials, using high-resolution microscopy and diffraction techniques, application to development of integrated circuit and magnetic recording materials and introduction of in situ high resolution electron microscopy.

This includes their application to understanding phase transformations and deformation of nitinol alloys, correlated with Differential Scanning Calorimetry (DSC) analysis.

9. Throughout the course of my career, I have received various honors and awards, as described in detail in my *curriculum vitae*. Some of the awards I have received include the Robert Lansing Hardy Gold Metal from the Metallurgical Society of AIME in 1976, the Alfred P. Sloan Foundation Fellowship in 1979, the Distinguished Scientist Award (Physical Sciences) from the Microscopy Society of America in 2009, and the David M. Turnbull Lectureship Award from the Materials Research Society in 2012.

10. Based on my experience and qualifications, I am qualified to render opinions in the field of nickel-titanium alloys. I am an expert in the field of materials science and engineering, particularly in electron microscopy and material structure and phase transformations, with several well-cited articles on the behavior of nitinol alloys.

### **My understanding of the Proceeding**

11. I have been retained in this matter by Rothwell, Figg, Ernst & Manbeck, P.C. of Washington, D.C., the attorneys representing the Patent Owner in this proceeding. I am being compensated at my regular consulting rate of \$600 per hour for time spent consulting, plus expenses.

12. I understand that the real parties in interest for the Patent Owner are Gold Standard Instruments, LLC; Dentsply International Inc.; and Tulsa Dental Products LLC d/b/a Tulsa Dental Specialties.

13. I do not have a financial interest in any of the real parties in interest or in the outcome of this proceeding.

14. My opinions provided in this declaration are as an independent expert witness.

15. Prior to my involvement in this matter, my previous personal contact with the real parties in interest was as an independent expert witness for related litigation in federal district court. That litigation is styled under the caption *Dentsply International, Inc. and Tulsa Dental Products LLC d/b/a Tulsa Dental Specialties v. US Endodontics, LLC*, Case No. 2:14-cv-00196-JRG (E.D. Tenn.).

16. I am informed that an *inter partes* review proceeding involving claims 1-17 of U.S. Patent No. 8,727,773 B2 (the “’773 patent”) has been instituted by the Patent Trial and Appeal Board at the United States Patent and Trademark Office.

17. I am informed that the ’773 patent issued from U.S. patent application serial no. 13/455,841, filed Apr. 24, 2012, which is a continuation of application serial no. 13/336,579, filed Dec. 23, 2011, which is a continuation of application serial no. 12/977,625, filed Dec. 23, 2010, which is a division of application serial no. 11/628,933, filed Dec. 7, 2006, which is a national stage entry of international

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