

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: IPR2015-01476
U.S. Patent No. 8,727,773

DECLARATION OF A. JON GOLDBERG

IPR2015-01476 – Ex. 1104
US Endodontics, LLC, Petitioner

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I, A. Jon Goldberg, do hereby declare and state as follows:

I. BACKGROUND AND QUALIFICATIONS

1. My business address is University of Connecticut Health Center, Center for Biomaterials, Department of Reconstructive Sciences, 263 Farmington Avenue, Farmington, Connecticut. I hold a B.S. in Metallurgical Engineering (1970) from Drexel University, an M.S.E. in Metallurgical Engineering (1971) and a Ph.D. in Dental Materials-Metallurgical Engineering (1977), both from the University of Michigan. My doctoral degree was a combined degree from the School of Engineering and the School of Dentistry.

2. Since 1975, I have been employed at the University of Connecticut in the following positions: Assistant Professor (1975-1980), Associate Professor (1980-1986), and Professor (1986 to Present), all in the Department of Restorative Dentistry, School of Dental Medicine. Since 1995, I have served as the Director of the Center for Biomaterials at the University of Connecticut Health Center. I am a founding member of the Board of Directors of the University of Connecticut Health Center. I am also a member of the Advisory Board of the Institute of Material Science at the University of Connecticut.

3. I have authored 70 scientific research articles, 100 abstracts, and eight books and book chapters. I have presented the results of my research at numerous national and international meetings, and have given several invited lectures. I am

co-director of a training grant from the National Institute of Dental and Craniofacial Research, National Institutes of Health. I am an inventor or co-inventor of six U.S. patents concerning the use of materials in dentistry, including titanium alloys for use in orthodontic appliances (U.S. Pat. No. 4,197,643) and composite materials used in various dental/endodontic procedures (U.S. Pat. No. 4,894,012).

4. I teach a variety of courses on materials engineering and materials science at the University of Connecticut, including courses on dental materials such as titanium alloys. My research activities have covered a broad range of dental materials including titanium alloys, fiber-reinforced composites for various dental clinical applications, biocatalyzed mineralization and use of high performance polyphenylene polymers in orthodontics.

5. I have supervised the research of engineering and dental graduate students. I have held primary academic appointments in clinical departments where I have integrated materials science into clinical teaching and research.

6. Based on my education and experience, I believe I am qualified to render opinions in the field of nickel titanium alloys, including mechanical properties and phase transformations associated with these alloys, particularly as applied in dentistry.

7. A copy of my *curriculum vitae* is attached hereto (Ex. A).

II. ASSIGNMENT

8. I submit this declaration in support of US Endodontics, LLC's ("US Endo's") petition for *inter partes* review of U.S. Patent No. 8,727,773 ("the '773 patent"). I have previously submitted a declaration in support of US Endo's first petition for *inter partes* review of the '773 patent, IPR2015-00632.

9. I am not an employee of US Endo or any affiliate or subsidiary thereof.

10. I am being compensated for my work in connection with this case at a rate of \$400 per hour, plus expenses.

11. My compensation is in no way dependent upon the substance of the opinions I offer below, or upon the outcome of US Endo's petition for *inter partes* review (or the outcome of the *inter partes* review, if trial is instituted).

12. I have been asked to provide a technical background for the '773 patent, as well as my opinion as to the level of ordinary skill in the art to which the '773 patent pertains.

13. The opinions expressed in this declaration, and in my prior declaration, are not exhaustive of my opinions regarding the '773 patent.

III. OVERVIEW OF THE '773 PATENT

14. The '773 patent is entitled "Dental and Medical Instruments Comprising Titanium" and names Neill Hamilton Luebke as its sole inventor. On its face,

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