

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: PGR2015-00019  
U.S. Patent No. 8,876,991

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**SUPPLEMENTAL DECLARATION OF A. JON GOLDBERG, PH.D.**

PGR2015-00019 – Ex. 1042  
US Endodontics, LLC, Petitioner

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

1. I previously submitted a declaration (Ex. 1002) in this proceeding, in support of US Endodontics, LLC's ("Petitioner") petition for post-grant review of U.S. Patent No. 8,876,991 ("the '991 patent").

2. I am not an employee of Petitioner or any affiliate thereof.

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

4. My compensation is in no way dependent upon the substance of the opinions I offer below, or upon the outcome of the post-grant review.

5. I have been asked to provide testimony in response to certain positions taken by Patent Owner in this proceeding.

6. Specifically, I have been asked to provide my opinions regarding certain alleged deficiencies in the original laboratory testing commissioned by Petitioner. Exs. 1015, 1018. I have also been asked to provide my opinions regarding the supplemental laboratory testing commissioned by Petitioner, which was conducted on additional samples of the same model of endodontic file previously tested (ProFile brand, of size 20, .04 taper, and 25 mm length). Ex. 1041.

7. I understand that Patent Owner has taken the position that the testing conducted on shanks heat-treated at 25°C, Ex. 1018, should be disregarded because

the claims 12-16 of the '991 patent require heat treatments of *above* 25°C. Paper 27, p. 18. As set forth in my Declaration dated August 3, 2015, and based on my knowledge and experience, heat treatments of shanks slightly above 25°C would not result in the shanks having characteristics that differ appreciably from shanks heat-treated at 25°C. *See, e.g.*, Ex. 1002, ¶¶ 101, 102. Since shanks heat-treated at 25°C exhibited between 0.04 and 2.19 degrees of permanent deformation, averaging 0.87 degrees, and far below the 10 degrees recited in the claims, Ex. 1002, ¶ 105, I would not expect heat-treating at temperatures slightly above 25°C to result in the shanks achieving close to 10 degrees of permanent deformation after torque at 45° of flexion when tested in accordance with ISO Standard 3630-1. The supplemental testing of shanks heat-treated at 40°C confirms this opinion, as the results show between 0.56 and 1.50 degrees of permanent deformation, averaging 1.00 degrees, which is still far below the 10 degrees recited in the claims. Ex. 1041, p. 13.

8. I further understand that Patent Owner has taken the position that the testing commissioned by Petitioner should have included testing of shanks heat-treated for durations longer than 12 hours. Paper 27, p. 22. The supplemental testing of shanks heat-treated at 40°C and 300°C for 24 hours and 28 hours confirms that even much longer heat treatment durations at these temperatures do not result in shanks achieving close to 10 degrees of permanent deformation after

torque at 45° of flexion when tested in accordance with ISO Standard 3630-1. Ex. 1041, p. 13. The testing results show between 0.56 and 1.37 degrees of permanent deformation for such longer duration heat treatments at 40°C, and between 1.36 and 2.59 degrees of permanent deformation for such longer duration heat treatments at 300°C. Ex. 1041, p. 13.

9. I also understand that Patent Owner has taken the position that in the prior testing, bending in the same direction as any initial bend resulted in considerably less permanent deformation than had the samples been bent in the opposite direction. Paper 27, pp. 22-23. I disagree. As an initial matter, nothing in the '991 patent specification or the ISO Standard 3630-1 provides any guidance to bend in the opposite direction as any initial bend. Further, given that the initial bend angles are very small (the largest being 0.98 degrees in the original testing), I would not have expected that bending in the opposite direction would have resulted in permanent deformation measurements substantially closer to 10 degrees. The supplemental testing, which was performed by bending in the opposite direction as any initial bend, Ex. 1041, p. 10, confirms this opinion. The supplemental testing results showed between 0.56 and 1.50 degrees of permanent deformation for heat treatments at 40°C, and between 1.36 and 2.59 degrees of permanent deformation for heat treatments at 300°C. Ex. 1041, p. 13.

10. Overall, the supplemental laboratory testing refutes the alleged deficiencies raised by Patent Owner, and is consistent with the opinions provided in my previous declaration (Ex. 1002).

I declare under penalty of perjury that the foregoing is true and correct.

Executed on August 4, 2016

  
A. Jon Goldberg, Ph.D.