

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

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**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 2023**

### **A. Prior Applications in the '773 Patent Family Do Not Support Heat Treatment in a Reactive Atmosphere**

If the Board concludes that the “heat-treating” step of claims 1 and 13 includes treatment in any environment, including environments reactive with nickel titanium, then claims 1-17 are not entitled to an effective filing date earlier than April 25, 2012.

The first disclosure, in any application related to the '773 patent, of heat-treating in an atmosphere other than one in which nickel titanium is unreactive appeared in the original claims of the '841 app., which was filed on April 25, 2012. The disclosure of every earlier continuation application is limited to conducting the “heat-treating” step in an atmosphere consisting essentially of a gas unreactive with nickel titanium, and no other atmosphere. Every discussion of heat treatment in the earlier applications, except in the context of optionally heat treating coated instruments (Ex. 1009 at 32), specifies that an unreactive atmosphere is used, such that one of ordinary skill would understand the unreactive atmosphere to be a requirement, not an option. Ex. 1002 at ¶¶ 47-58. And earlier applications distinguish coated instruments (including ones with an “inherent heat treatment”) from the claimed, heat-treated instruments. *Id.* at ¶ 52; *See, e.g.*, Ex. 1009 at 33-36. Thus, one of ordinary skill would have understood the heat-treating step disclosed by every priority application to the '773 patent to require heat-treating in an unreactive atmosphere. Ex. 1002 at ¶¶ 57-58.<sup>5</sup>

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<sup>5</sup> GSI's licensee argued in the pending district court litigation that a passing reference to chemical vapor deposition (CVD) in earlier-filed applications supports

ting edge is defined by “helical flutes,” (ii) the shank is “in accordance with ISO Standard 3630-1,” and (iii) the temperature of treatment is 475-525°C. Regarding (ii), it would have been obvious to construct the shanks in accordance with ISO Standard 3630-1, whose goal—like that of any standard—was standardization.<sup>8</sup> Ex. 1002 at ¶ 140. Regarding (i), files in accordance with the standard would have helical cutting flutes, and would otherwise satisfy the structural limitations of the shank provided in step (a). *Id.*; see Ex. 1016 at 4-5; Ex. 1017 at 4. Regarding (iii), Kuhn discloses heat treatment at 510°C, among other temperatures. Ex. 1019 at 717. The 510°C treatment did not produce a transformation temperature above 37°C, nor did the resulting instrument show significant permanent deformation—most likely as a result of the short treatment time. See Ex. 1006 at 113, Fig. 9 (“At the highest ageing temperature, 550°C, there is an initial decrease in  $A_f$  and then a rapid increase.”). But, because the “wherein” clause is not limiting (*see supra* section IV-C-2), claim 13 is also unpatentable as obvious over Kuhn in view of ISO Standard 3630-1.

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<sup>8</sup> If the Board determines that claim 13 requires compliance with the 2008 edition of ISO 3630-1, then claims 13-17 cannot have been described or enabled by the priority applications filed before 2008. In that case, the priority date of claims 13-17 could be no earlier than December 23, 2010, the filing date of the first application in the ’773 patent family dated after 2008, and the 2008 edition of ISO 3630-1 would be prior art. It would have been equally obvious to comply with that edition.