

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent of: Maguire	§	Petition for <i>Inter Partes</i> Review
	§	
U.S. Patent No. 8,305,840	§	Attorney Docket No.: 70052.703
	§	
Issued: November 6, 2012	§	Customer No.: 27683
	§	
Title: DOWNSCAN IMAGING SONAR	§	Real Party in Interest: Raymarine, Inc.
	§	
	§	

Declaration of Paul Stokes

Under 37 C.F.R. § 1.68

I, Paul Stokes, do hereby declare:

1. I am making this declaration at the request of Raymarine, Inc. in the matter of the *Inter Partes* Review of claims 4, 6, 8-9, 12-15, 22, 27-28, 34-37, 43, 54-55, 63, and 65-68 of U.S. Patent No 8,305,840 (“the ’840 Patent”) to Maguire.

2. I am being compensated for my work in this matter. My compensation in no way depends upon the outcome of this proceeding.

3. In the preparation of this declaration, I have studied:

- (1) The ’840 Patent, RAY-1001;
- (2) The prosecution history of the ’840 Patent, RAY-1002;
- (3) de Jong, C.D. et al., Hydrography, (1st ed. 2002) (“Hydrography”),

RAY-1003;

- (4) U.S. Patent No. 7,961,552 (“Boucher ’552”), RAY-1004;
- (5) U.S. Patent No. 6,904,798 (“Boucher ’798”), RAY-1005;
- (6) U.S. Patent No. 5,184,330 (“Adams”), RAY-1006;
- (7) U.S. Patent No. 7,652,952 (“Betts”), RAY-1007;
- (8) DeRoos, Bradley G. et al., Technical Survey and Evaluation of Underwater Sensors and Remotely Operated Vehicles, (May 1993) (“DeRoos”), RAY-1008.

4. In forming the opinions expressed below, I have considered:

- (1) The documents listed above,
- (2) The relevant legal standards, including the standard for obviousness provided in *KSR International Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007) and any additional authoritative documents as cited in the body of this declaration, and
- (3) My knowledge and experience based upon my work in this area as described below.

Qualifications and Professional Experience

5. My qualifications are set forth in my curriculum vitae, a copy of

which is attached as an exhibit to this declaration. As set forth in my curriculum vitae, I have almost 30 years of experience in sonar engineering.

6. I received an honours degree in Electrical and Electronic Engineering from the University Of Glamorgan, and I have completed additional coursework in the study of sonar including Underwater Acoustics and Sonar Systems with the University Of Birmingham.

7. I have worked with a variety of companies and institutions in the sonar industry, including Marconi, BA Systems, and Thales. I have held the roles of Acoustics Group Manager, Company Expert in Sonar (Elect), and Outboard System Design Authority with regard to a number of sonar systems developed for the Royal Navy. At Raymarine, I hold the position of Systems Architect (Sonar), and I serve as the technical authority for Raymarine's sonar products. I develop sonar systems and transducers for an assortment of consumer and institutional uses, and I am tasked with advancing Raymarine's sonar product portfolio. I am listed as sole or co-inventor on five patent applications in association with Raymarine.

8. My experience covers many varied types of sonar systems, as set forth in my curriculum vitae, with key experience with the Thales Underwater Systems 2076 sonar suite for the Royal Navy, where I was the Outboard System Design Authority for the Mine Detection And Avoidance, Intercept, Bow Active, and

Passive systems. I was also involved in many technical aspects of the other systems within the suite, including the Towed Array, Flank Array, and Fin Array systems. My substantial knowledge and experience in the field of sonar was officially recognized when I was elected to the role of Company Expert for Thales Underwater Systems. I also maintain a membership with the Institute of Acoustics.

9. I am familiar with the knowledge and capabilities of one of ordinary skill in 2009 in the fields of sonar engineering and specifically linear transducer technology. Specifically, my experience (1) in the industry, (2) in academia, and (3) with engineers practicing in the field allowed me to become personally familiar with the level of skill of individuals and the general state of the art. Unless otherwise stated, my testimony below refers to the knowledge of one of ordinary skill in the field of sonar engineering and linear transducer technology during the 2005-2009 time period.

10. In my opinion, the level of ordinary skill in the art needed to have the capability of understanding the scientific and engineering principles applicable to the '840 Patent is a bachelor's degree in electrical engineering and several years of industry experience in sonar engineering.

Relevant Legal Standards

11. I have been asked to provide my opinions regarding whether the claims of the '840 Patent are anticipated or would have been obvious to a person having ordinary skill in the art at the time of the alleged invention, in light of the prior art. It is my understanding that, to anticipate a claim under 35 U.S.C. § 102, a reference must teach every element of the claim. Further, it is my understanding that a claimed invention is unpatentable under 35 U.S.C. § 103 if the differences between the invention and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. I also understand that the obviousness analysis takes into account factual inquiries including the level of ordinary skill in the art, the scope and content of the prior art, and the differences between the prior art and the claimed subject matter.

12. It is my understanding that the Supreme Court has recognized several rationales for combining references or modifying a reference to show obviousness of claimed subject matter. Some of these rationales include the following:
combining prior art elements according to known methods to yield predictable results; simple substitution of one known element for another to obtain predictable results; use of a known technique to improve a similar device (method, or product) in the same way; applying a known technique to a known device (method, or product) ready for improvement to yield predictable results; choosing from a finite

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