IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Inter Partes Review of: Trial Number: To Be Assigned

U.S. Patent No. 5,593,417

Filed: November 27, 1995

Issued: January 14, 1997 Attorney Docket No.: 058888-0000022

Inventor: Rhodes, Valentine J.

Assignee: Rhodes, Valentine J.

Title: INTRAVASCULAR STENT WITH SECURE MOUNTING MEANS Panel: To Be Assigned

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Patent Trial and Appeal Board
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION OF TRAVIS ROWE

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I, Travis Rowe, declare as follows:

I. Overview

1. I have been retained as an expert witness on behalf of Medtronic, Inc. ("Medtronic"). I am employed with Medtronic. For my efforts in connection with the preparation of this declaration, I have not been provided with any additional compensation. My employment with Medtronic, or any compensation relating to my employment, is in no way contingent on the results of these or any other proceedings relating to the above-captioned patent.

2. I have been informed that the petition for *inter partes* review involves U.S. Patent No. 5,593,417 ("the '417 patent"), **Exhibit 1001**, which was filed on November 27, 1995 on behalf of Valentine J. Rhodes, and issued on January 14, 1997. I have also been informed that the earliest possible priority date of the '417 patent is November 27, 1995.

3. Claim 1 of the '417 patent relates to intraluminal medical devices (e.g., grafts or stents) having anchoring means for securing the devices within vessels, ducts, or lumens of living beings. Among other features, claim 1 recites an intraluminal medical device comprising a tubular member and anchoring means, where the anchoring means comprise plural projections arranged for engagement with an interior surface of a vessel, duct, or lumen, where each of the projections has a trailing portion located in a downstream direction of body fluid flow, where the trailing portion includes at least one surface preferentially oriented to extend at an acute angle to a first direction in which the body fluid flows, and where a force applied to the tubular member by the body fluid flowing through a passageway of the tubular member produces a force component on each of the projections to cause the at least one surface to tightly engage the interior surface of the vessel, duct, or lumen to fixedly secure the intraluminal medical device in place.

4. I have reviewed the '417 patent. I have also reviewed U.S. Patent No. 5,104,399 ("the '399 patent") and U.S. Patent No. 5,122,154 ("the '154 patent") (collectively, the "Prior Art Patents"). I am interpreting the '417 patent, the '399 patent, and the '154 patent from a technical perspective based on my training, knowledge, and experience. In formulating my opinions, I have relied upon my training, knowledge, and experience in the relevant art, and considered the viewpoint of a person of ordinary skill in the art ("POSA") (i.e., a person of ordinary skill in the field of intraluminal grafts and stents) prior to November 27, 1995.

5. As described in detail below, a POSA would understand that a force applied by body fluid flowing through the balloon-expanded tubular members as disclosed in the above mentioned Prior Art Patents, would necessarily and inherently produce a force component on each of the projections thereof to cause the surfaces of the projections to tightly engage the interior surface of the vessel, duct, or lumen to fixedly secure the graft or stent in place.

II. My Background and Qualifications

6. I am an expert in the field of intraluminal grafts and stents (which I will also refer to as "the relevant art" herein). In formulating my opinions, I have relied upon my training, knowledge, and experience in this and related fields.

7. I received a B.Sc. in Mechanical Engineering and Materials Science Engineering from University of California, Davis in 1995.

8. From 2001 until 2003, I was a Senior Mechanical Engineer at Pacific Consultants in Mountain View, California. As a Senior Mechanical Engineer, I worked on designing and developing products for a variety of projects involving intraluminal medical devices. Some of these projects included the creation of exotic Nitinol shape setting mandrels, catheter delivery systems and associated

interface controls, and Nitinol and stainless steel stents. I participated in various phases on these projects, including prototyping, evaluation, and/or trial studies of the products.

9. Since 2003, I have been an R&D Engineer at Medtronic in Santa Rosa, California. Currently, as a Principal R&D Engineer, I am involved with stent products from their conception through production manufacturing of the products. My involvement includes, for example, concepts, specification, prototyping, testing, formal verification, submission to the Food and Drug Administration (FDA), validation, and delivery system interactions.

10. In addition to gaining expertise via my educational training and professional experiences, I have kept abreast of the field of intraluminal grafts and stents by attending scientific conferences. Conferences that I have attended include, for example, the VIVA (Vascular InterVentional Advances) Conference, the TCT (Transcatheter Cardiovascular Therapeutics) Conference, the Stent Summit at Cleveland Clinic, and the SMST (Shape Memory and Superelastic Technologies) Conference.

III. Person of Ordinary Skill in the Art

11. I have been informed that a POSA is a person of ordinary creativity who is presumed to be aware of the relevant art at the time of the alleged invention described by the '417 patent. I have also been informed that the time of the alleged invention is November 27, 1995. A POSA would have had knowledge of the scientific literature concerning grafts or stents having anchoring means for securing the grafts or stents within vessels, ducts, or lumens of living beings. A POSA would have had substantial familiarity, training, or experience with grafts or stents having anchoring means for securing the grafts or stents within vessels, ducts, or lumens of living beings.

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