

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NU MARK LLC
Petitioner

v.

FONTEM HOLDINGS 1 B.V.
Patent Owner

Case IPR. No. **Unassigned**
U.S. Patent No. 8,365,742

**Declaration of Dr. John M. Collins in Support of
Petition for *Inter Partes* Review
of U.S. Patent No. 8,365,742
Under 37 C.F.R. § 1.68**

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I, John M. Collins, hereby declare as follows:

I. INTRODUCTION

1. My name is John M. Collins. My findings, as set forth herein, are based on my education and background in the fields discussed below.

2. I have been retained on behalf of Petitioner Nu Mark LLC (“Petitioner” or “Nu Mark”) to provide this Declaration concerning technical subject matter relevant to the *inter partes* review petition (“Petition”) concerning U.S. Patent No. 8,365,742 (“the 742 Patent”, Ex.1001). I have been asked to offer opinions generally regarding the validity, novelty, prior art, obviousness considerations, and understanding of a person of ordinary skill in the art in the industry as it relates to the 742 Patent. I reserve the right to supplement this Declaration in response to additional evidence that may come to light.

3. I am over 18 years of age. I have personal knowledge of the facts stated in this Declaration and could testify competently to them if asked to do so.

II. BACKGROUND AND QUALIFICATIONS

4. I am the Chief Operating Officer at the Consortia for Improving Medicine with Innovation and Technology (CIMIT), a non-profit consortium of Boston’s leading teaching hospitals and universities along with a growing list of national and international affiliates. I am also Chief Technology and Innovation Officer for Reed Collins, LLC. I have worked at CIMIT since 2008. Much of my

responsibility is to facilitate collaboration among scientists, engineers, clinicians and entrepreneurs to speed the discovery, development, and implementation of medical innovations. I focus on assisting investigators in moving technologies from the lab into products and services that improve patient care. For example, I assisted the transition of a simulation technology that helps in the training of Army medics to a leading international simulation company. That product is now being marketed under the name Caesar by CAE Healthcare.

5. I received a Ph.D. (1988) and M.S. (1982) in mechanical engineering from the Massachusetts Institute of Technology (MIT), as well as a B.S. (1980) in mechanical engineering, with a minor in economics, from Rensselaer Polytechnic Institute (RPI). At MIT, I worked in the Fluids Lab under the direction of Professors Asher Shapiro and Roger Kamm. My academic work focused on mechanical engineering with a concentration on heat/mass transfer, with my Ph.D. and M.S. theses applying these principles to pulmonary dynamics. My M.S. thesis was on high frequency ventilation: at the time a novel way to ventilate babies without over-pressurization of the lung, avoiding damage to the lung during ventilator assist. My Ph.D. thesis was on analytical and numerical modeling of forced exhalation from the lung. The results were a computational model of the lung that allowed for more sophisticated diagnostics based on the results of the simple Forced Expiration Pulmonary Function (FEPF) test.

6. I have over 34 years of product design, development and consulting expertise covering a wide range of industries and products. Over that time, I have had a consistent focus on medical devices and related technologies, which includes my particular expertise in design, fluid mechanics and heat/mass transfer. In addition to doing engineering work, my responsibilities have included assembling and managing teams to develop new consumer, industrial and professional products. My CV is attached as Appendix C.

7. Prior to 2008, I held various leadership positions at technology and product development companies. From 1982-1986, I worked at Booz, Allen & Hamilton, where I developed products such as the Regina Rug Scrubber, which utilized a venturi sprayer to dispense a soap and water solution evenly over floor surfaces. After taking time to return to MIT and complete my PhD, I was then employed by Arthur D. Little (“ADL”) from 1988-2002. I joined ADL as a design engineer and helped to form its medical products business. I progressed to being responsible for the Technology and Innovation (T&I) Directorate, with more than 250 staff.

8. From 2002-2008, I worked in close collaboration with CEO and owner, Dr. Kenan Sahin, to form TIAX from the resources of the ADL T&I Directorate. TIAX is a privately held technology transformation organization focused on advancing and developing technologies for commercialization in

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