

Paper No. _____

Filed: October 9, 2015

**UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD**

COSTCO WHOLESALE CORPORATION

Petitioner

v.

ROBERT BOSCH LLC

Patent Owner

U.S. Patents 7,228,588, 7,484,264, 8,099,823; and 8,544,136

**DECLARATION OF DR. GREGORY W. DAVIS IN SUPPORT OF
PETITION FOR INTER PARTES REVIEW OF U.S. PATENTS NOS.
7,228,588, 7,484,264, 8,099,823; and 8,544,136**

I. INTRODUCTION

I, Dr. Gregory W. Davis, hereby declare the following:

1. I have been asked by counsel for Petitioner Costco Wholesale Corporation (“Costco”) to review U.S. Patents 7,228,588 (“the ‘588 patent”), 7,484,264 (“the ‘264 patent), 8,099,823 (“the ‘823 patent), and 8,544,136 (“the ‘136 patent) (collectively “the ‘588 family”), to describe the skill level in the art of the ‘588 family as of April 26, 2001, as reflected in the patents and printed publications cited below, and to analyze whether, as of not later than April 26, 2001, the conception and making of the wiper blade claimed in the ‘588 family required more than ordinary skill in the art or involved more than the predictable use of prior art elements according to their established functions.

2. In particular, I have been asked to provide comments concerning U.K Patent No. G.B. 2,106,775, U.S. Patent No. 3,192,551, PCT Publication No. WO99/02383, PCT Publication No. WO99/12784, and German Patent No. DE 1,028,896B.

3. In performing my analysis I have considered the claims of the ‘588 family, any differences between the claimed subject matter and the prior art patents and printed publications cited below, and the level of ordinary skill in the art of the ‘588 family as of not later than April 26, 2001, which I understand is the filing date

of the German application to which the '588 patent claims priority.

II. QUALIFICATIONS

4. A copy of my resume is attached as Appendix A.

5. I earned a Ph.D. in Mechanical Engineering from the University of Michigan – Ann Arbor in 1991. My thesis was directed to automotive engineering. Prior to this, I received a Master of Science degree in Mechanical Engineering from Oakland University (1986) and a Bachelor of Science degree in Mechanical Engineering from the University of Michigan, Ann Arbor (1982). I am a registered professional engineer in the state of Michigan.

6. As shown in my resume, most of my career has been in the field of automotive engineering. I have held positions in both industry and academia relating to this field. After receiving my Masters degree, I began work at General Motors. At General Motors I had several assignments involving automotive design. I held positions in advanced engineering and manufacturing. Over the course of my years at General Motors, I was involved in all aspects of the vehicle design process, from advanced research and development to manufacturing. I also worked on several different technologies while at General Motors including various mechanical components and subsystems of vehicles.

7. After leaving General Motors, I finished my Ph.D. in Mechanical Engineering from the University of Michigan – Ann Arbor. My thesis was directed

to automotive engineering including the design and development of systems and models for understanding combustion in automotive engines. Upon completion of my Ph.D., I joined the faculty of the U.S. Naval Academy where I led the automotive program in mechanical engineering. As part of my responsibilities while at the Academy, I managed the laboratories for Internal Combustion Engines and Power Systems. Additionally, I served as faculty advisor for the USNA Society of Automotive Engineers (SAE). During this time I served as project director for the research and development of hybrid electric vehicles. This included extensive design and modifications of the powertrain, chassis, and body systems. While at the Naval Academy, I also taught classes in mechanical engineering at Johns Hopkins University.

8. In 1995, I joined the faculty of Lawrence Technological University where I served as Director of the Master of Automotive Engineering Program and Associate Professor in the Mechanical Engineering Department. The master's program in automotive engineering is a professionally oriented program aimed at attracting and educating practicing engineers in the automotive industry. In addition to teaching and designing the curriculum for undergraduate and graduate students, I also worked in the automotive industry closely with Ford Motor Company on the development of a hybrid electric vehicle. I served as project director on a cooperative research project to develop and design all aspects of a

hybrid electric vehicle. While in many instances we used standard Ford components, we custom designed many automotive subsystems. In addition to the powertrain system, we designed and developed the exterior body of the vehicle. In the course of this development, we custom designed a wiper blade system that would work appropriately with the body modifications desired for the hybrid electric vehicle. Not only did we select the appropriate location, structures, and design of the wiper system, we also custom designed a wiper blade appropriate for placement and performance with the vehicle in order to correct a performance (chatter) issue created by the body modifications. During the course of this nearly two year project, we created a unique wiper blade system for use on our hybrid electric vehicle, which was based on the Ford Taurus. We also did analytical and actual testing of the systems. During my time at Lawrence Tech, I served as advisor for 145 automotive graduate and undergraduate project students. Many of the graduate students whom I advised were employed as full time engineers in the automotive industry. This service required constant interaction with the students and their automotive companies which included the major automotive manufacturers (Ford, Chrysler, General Motors, Toyota, etc.) along with many automotive suppliers.

9. Currently, I am employed as a Professor of Mechanical Engineering & Director of the Advanced Engine Research Laboratory (AERL) at Kettering

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