

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FORD MOTOR COMPANY
Petitioner,

v.

PAICE LLC & ABELL FOUNDATION, INC.
Patent Owners.

Case IPR2015-00606
Patent 7,237,634

**PATENT OWNER'S MOTION FOR OBSERVATIONS ON THE
CROSS EXAMINATION OF DR. JEFFREY STEIN**

EXHIBITS

Exhibit Number	Exhibit Name
Ex. 2801	U.S. Patent No. 8,214,097 File History
Ex. 2802	Table of Ford's IPR Petitions
Ex. 2803	Appendix A (January 15, 2014)
Ex. 2804	Jeffery L. Stein, Deposition Tr. (IPR2014-00570) (May 8, 2015)
Ex. 2805	Jeffery L. Stein, Deposition Tr. (IPR2014-00875) (Mar. 3, 2015)
Ex. 2806	Jeffery L. Stein, Deposition Tr. (IPR2014-00875) (May 29, 2015)
Ex. 2807	Declaration of Daniel A. Tishman in Support of Patent Owners' Motion for Pro Hac Vice Admission
Ex. 2808	Declaration of Neil Hannemann
Ex. 2809	Neil Hannemann CV
Ex. 2810	Gregory W. Davis Deposition Tr. (IPR2014-00571 & IPR2014-00579) (Jan. 13, 2015)
Ex. 2811	Gregory W. Davis Deposition Tr. (IPR2014-01416) (June 3, 2015)
Ex. 2812	Gregory W. Davis Deposition Tr. (IPR2014-00571) (May 8, 2015)
Ex. 2813	Excerpts from Neil Hannemann Deposition Tr. (IPR2014-00571) (April 7, 2015)
Ex. 2814	Jeffery L. Stein, Deposition Tr. (IPR2014-00570) (Jan. 12, 2015)
Ex. 2815	Jeffery L. Stein, Deposition Tr. (IPR2014-01415) (May 29, 2015)
Ex. 2816	Integrated Microprocessor Control of a Hybrid i.c. Engine/Battery-Electric Automotive Power Train," P.W. Masding, J.R. Bumby, Jan. 1990
Ex. 2817	Masding, Philip Wilson (1988) "Some drive train control problems in hybrid i.c engine/battery electric vehicles," Durham theses, Durham University
Ex. 2818	Excerpt from McGraw-Hill Dictionary of Scientific and Technical Terms, Sixth Ed., 2003.
Ex. 2819	Deposition Transcript of Jeffrey Stein, Ph.D.

1. In exhibit 2819, on page 31, line 24 to page 34, line 3, Dr. Stein testified that claim 7 of U.S. Patent No. 5,343,970 (“the ’970 patent”) discloses a battery providing a maximum current of 75 amperes to the electric motor, that the corresponding voltage would be a voltage under load, and that claim 8 (which depends from claim 7) states that the corresponding voltage is between 500 to 1,500 volts. This testimony is relevant to paragraphs 64-68 of Dr. Stein’s Reply Declaration (Ex. 1188). The testimony is relevant because it contradicts Dr. Stein’s reply declaration testimony that the ’970 patent does not disclose 500 to 1,500 volts under load.

2. In exhibit 2819, on page 46, line 7-21 and page 47 line 18 to page 48, line 3, Dr. Stein testified that both claim 7 (at column 23) and column 19 of the ’970 patent disclose providing a maximum current of 75 amperes and that both claim 8 (which depends from claim 7 and also found at column 23) and column 19 of the ’970 patent both disclose voltages of 500 to 1,500 volts. This testimony is relevant to paragraphs 64-68 of Dr. Stein’s Reply Declaration (Ex. 1188). The testimony is relevant because it calls into question Dr. Stein’s reply declaration testimony that the ’970 patent disclosure that “[t]ypical maximum voltages corresponding to light and heavy vehicles are between 500 and 1,500 volts” found on column 19 of the ’970 patent are not clearly voltages under load.

3. In exhibit 2819, on page 73, line 17-25, Dr. Stein testified that when the battery is providing power and there's a current flowing, the corresponding voltage is a voltage under load. This testimony is relevant to paragraphs 25-31 of Dr. Stein's Reply Declaration (Ex. 1188). The testimony is relevant because it calls into question Dr. Stein's reply declaration testimony that U.S. Application No. 09/392,743's disclosure that disclosed operating voltages in the sentence "the vehicle's electrical system operates at higher voltage than conventional electric and hybrid vehicles, e.g., 800 - 1200 V as compared to 240 V; this approximate three-fold increase in the operating voltage provides a concomitant reduction in the current that flows in the various modes of operation of the vehicle, to one-third the current that would flow for the same amount of power transfer in a low-voltage system" are not voltages under load.

4. In exhibit 2819, on page 70, line 15 to page 71, line 8, Dr. Stein testified that when a hybrid vehicle is being driven, the electrical system will provide current for movement of the vehicle. This testimony is relevant to paragraphs 25-31 of Dr. Stein's Reply Declaration (Ex. 1188). The testimony is relevant because it calls into question Dr. Stein's reply declaration testimony that U.S. Application No. 09/392,743's disclosure that disclosed operating voltages in the sentence "the vehicle's electrical system operates at higher voltage than conventional electric and hybrid vehicles, e.g., 800 - 1200 V as compared to 240

V; this approximate three-fold increase in the operating voltage provides a concomitant reduction in the current that flows in the various modes of operation of the vehicle, to one-third the current that would flow for the same amount of power transfer in a low-voltage system” are not voltages under load.

5. In exhibit 2819, on page 77, line 18 to page 78, line 2, Dr. Stein testified that when the nominal voltage is increased by threefold, the corresponding current remains zero. This testimony is relevant to paragraphs 25-31 of Dr. Stein’s Reply Declaration (Ex. 1188). The testimony is relevant because it calls into question Dr. Stein’s reply declaration testimony that U.S. Application No. 09/392,743’s disclosure that disclosed operating voltages in the sentence “the vehicle’s electrical system operates at higher voltage than conventional electric and hybrid vehicles, e.g., 800 - 1200 V as compared to 240 V; this approximate three-fold increase in the operating voltage provides a concomitant reduction in the current that flows in the various modes of operation of the vehicle, to one-third the current that would flow for the same amount of power transfer in a low-voltage system” are nominal voltages and not voltages under load.

6. In exhibit 2819, on page 90, line 23 to page 91, line 15, Dr. Stein testified that hybrid vehicle design considerations prevent the maximum voltage of the electrical system to reach infinity. This testimony is relevant to paragraphs 64-67 of Dr. Stein’s Reply Declaration (Ex. 1188). The testimony is relevant because

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