

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FORD MOTOR COMPANY
Petitioner,

v.

PAICE LLC & ABELL FOUNDATION, INC.
Patent Owner.

U.S. Patent No. 7,237,634 to Severinsky *et al.*

IPR Case No.: IPR2015-00787

**PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. § 311 *ET SEQ.* AND 37 C.F.R. §42.100 *ET SEQ.*
(CLAIMS 33, 34, 35, 38, 53, 54, 215, 238, 241, 252, 253, 254, 255, 256, 259, 261,
262, 267, 281, 282, 285, 287, AND 288 OF U.S. PATENT NO. 7,237,634)**

TABLE OF CONTENTS

EXHIBIT LIST	iii
I. INTRODUCTION	1
II. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8.....	2
A. Real Party-In-Interest - 37 C.F.R. § 42.8(b)(1)	2
B. Lead and Back-Up Counsel - 37 C.F.R. § 42.8(b)(3)	2
C. Service Information - 37 C.F.R. § 42.8(b)(4)	3
III. REQUIREMENTS UNDER 37 C.F.R. § 42.104.....	3
A. Grounds for Standing - 37 C.F.R. § 42.104(a).....	3
B. Challenged Claims - 37 C.F.R. §42.104(b)(1).....	3
C. Grounds of Challenge - 37 C.F.R. §42.104(b)(2)	3
IV. OVERVIEW OF THE '634 PATENT.....	4
A. Prosecution History of the '634 Patent	5
B. Purported Improvement in the '634 Patent.....	5
C. Independent Claims 33, 215, 241 and 267	6
V. PERSON OF ORDINARY SKILL IN THE ART (POSA).....	7
VI. STATE OF THE ART	8
VII. CLAIM CONSTRUCTION — 37 C.F.R. § 42.104 (B)(3).....	9
A. road load (RL) and RL.....	10
B. setpoint (SP) and SP.....	10
VIII. UNPATENTABILITY GROUNDS	11
A. Ground 1 – Claims 33, 34, 35, 38 and 215 are Obvious over Ibaraki '882 and the General Knowledge of a POSA.....	12
1. Independent Claim 33.....	12
2. Dependent Claim 34.....	35
3. Dependent Claim 35.....	36
4. Dependent Claim 38.....	36
5. Independent Claim 215.....	37
B. Ground 2 – Claims 53, 241, 252, 253, 254, 255, 256, 259, 261 and 262 are Obvious in view of Ibaraki '882, Vittone and the Knowledge of a POSA	38
1. Dependent Claim 53.....	38
2. Motivation to Combine.....	41
3. Independent Claim 241	43

4.	Dependent Claim 252.....	44
5.	Dependent Claim 253.....	44
6.	Dependent Claim 254.....	44
7.	Dependent Claim 255.....	46
8.	Dependent Claim 256.....	50
9.	Dependent Claim 259.....	50
10.	Dependent Claim 261.....	52
11.	Dependent Claim 262.....	53
C.	Ground 3 – Claims 54, 238, 267, 281, 282, 285, 287, and 288 are obvious in view of Ibaraki '882, Yamaguchi and the Knowledge of a POSA	54
1.	Motivation to Combine.....	54
2.	Dependent Claim 54.....	55
3.	Dependent Claim 238.....	57
4.	Independent Claim 267	57
5.	Dependent Claim 281.....	58
6.	Dependent Claim 282.....	59
7.	Dependent Claim 285.....	59
8.	Dependent Claim 287.....	59
9.	Dependent Claim 288.....	59
IX.	OBJECTIVE INDICIA OF NONOBVIOUSNESS	60
X.	CONCLUSION.....	60
	CERTIFICATE OF SERVICE	61

EXHIBIT LIST

Exhibit No.	Description	Date	Identifier
1750	U.S. Patent No. 7,237,634	July 3, 2007	'634 Patent
1751	Ford Letter to Paice	Sept. 2014	
1752	U.S. Patent No. 5,789,882	Aug. 4, 1998	Ibaraki '882
1753	Oreste Vittone <i>et al.</i> , FIAT Research Centre, <i>Fiat Conceptual Approach to Hybrid Car Design</i> ,” 12 th (International Electric Vehicle Symposium, 1994)	1994	Vittone
1754	U.S. Patent No. 5,865,263	Feb. 23, 1996	Yamaguchi
1755	Declaration of Gregory Davis		Davis Dec.
1756	Toyota Litigations	2005	Toyota Litigation
1757	Hyundai Litigation	2013-2014	Hyundai Litigation
1758	PTAB Decisions & Preliminary Response in 2014-00571		
1759	7,237,634 File History (certified)	n/a	'634 Patent File History
1760	Excerpt of USPN 7,104,347 File History	n/a	'347 File History
1761	U.S. Patent No.7,104,347	Sept. 12, 2006	'347 Patent
1762	SAE 760121 (Unnewehr-1976)	Feb. 1, 1976	Unnewehr
1763	Microprocessor Design for HEV (Bumby-1988)	Sept. 1, 1988	Bumby 1988
1764	SAE SP-1331 (1998)	Feb. 1998	SAE SP-1331
1765	Innovations in Design: 1993 Ford Hybrid Electric Vehicle Challenge	Feb. 1994	
1766	1996 & 1997 Future Car Challenge	Feb. 1997 & Feb. 1998	
1767	Introduction to Automotive Powertrain (Davis)		Davis Textbook
1768	U.S. Application 60-100095	Filed Sept. 11, 1998	'095 Provisional
1769	History of Hybrid Electric Vehicle (Wakefield-1998)	1998	Wakefield
1770	SAE 920447 (Burke-1992)	Feb. 1, 1992	Burke 1992

Exhibit No.	Description	Date	Identifier
1771	Vehicle Tester for HEV (Duoba-1997)	Aug. 1, 1997	Duoba 1997
1772	DOE Report to Congress (1994)	April 1995	1994 Report to Congress
1773	SAE SP-1156 (1996)	Feb. 1996	SAE SP-1156
1774	DOE HEV Assessment (1979)	Sept. 30, 1979	HEV Assessment 1979
1775	EPA HEV Final Study (1971)	June 1, 1971	EPA HEV Final Study
1776	WO 9323263A1 (Field)	Nov. 25, 1998	9323263
1777	Toyota Prius (Yamaguchi-1998)	Jan. 1998	Toyota Prius Yamaguchi 1998
1778	US Patent 6,209,672	April 3, 2001	'672 Patent
1779	Propulsion System for Design for EV (Ehsani-1996)	1996	IEEE Eshani 1996
1780	Propulsion System Design for HEV (Ehsani-1997)	Feb. 1997	IEEE Eshani 1997
1781	Bosch Automotive Handbook (1996)	Oct. 1996	Bosch Handbook
1782	SAE SP-1089 (Anderson-1995)	Feb. 1995	SAE SP-1089
1783	Critical Issues in Quantifying HEV Emissions (An 1998)	Aug. 11, 1998	An 1998
1784	Gregory Davis Resume		
1785	U.S. Patent No. 5,327,992	July 12, 1994	Boll
1786	US Patent 5,343,970	Sept. 6, 1994	Severinsky '970
1787	Bumby, J.R. et al. "Optimisation and control of a hybrid electric car" - IEE Proc. A 1987, 134(6)	Nov. 1987	Bumby II
1788	Paice Complaint	Feb. 25, 2014	
1789	Automotive Electronics Handbook (Jurgen)	1995	Jurgen
1790	Engineering Fundamentals of the Internal Combustion Engine (Pulkrabek)	1997	Pulkrabek

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.