

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.: IPR2015-00791

PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. § 311 *ET SEQ.* AND 37 C.F.R. §42.100 *ET SEQ.*
(CLAIMS 33, 37, 39, 40, 41, 80, 93, 94, 96, 99, 106, 107, 108, 113, 114, 127, 128, 132,
139, 140, 141, 146, 215, 229, AND 231 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. Related Matters - 37 C.F.R. § 42.8(b)(2) 2

 C. Lead and Back-Up Counsel - 37 C.F.R. § 42.8(b)(3) 2

 D. 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..... 5

 A. Prosecution History of the '634 Patent 5

 B. Independent Claims 33, 161 and 215..... 5

V. PERSON OF ORDINARY SKILL IN THE ART (POSA) 6

VI. STATE OF THE ART 7

VII. CLAIM CONSTRUCTION — 37 C.F.R. § 42.104 (B)(3)..... 8

 A. *road load (RL)* and *RL*..... 9

 B. *setpoint (SP)* and *SP*..... 10

 C. “*mode I,*” “*low-load operation mode I,*” “*highway cruising operation mode IV,*” “*acceleration operation mode V*” 11

 D. “*abnormal and transient conditions*” (Claims 55 and 239) 12

VIII. UNPATENTABILITY GROUNDS 12

 A. Ground 1 – Claims 33, 37, 215 and 229 are Obvious under 35 U.S.C. § 103 Over Ibaraki '882 and the General Knowledge of a POSA 13

 1. Independent Claim 33 13

 2. Dependent Claim 37..... 34

 3. Independent Claim 215..... 38

 4. Dependent Claim 229..... 39

 B. Ground 2 – Claims 39, 40, 80, 93, 94, 96, 99, 106, 107, 108, 114, 127, 128, 132, 139, 140, and 141 are Obvious in view of Ibaraki '882, Frank and the General Knowledge of a POSA..... 40

1.	Reason to Combine	40
2.	Dependent Claims 39	42
3.	Dependent Claim 40.....	43
4.	Independent Claim 80	45
5.	Dependent Claim 93.....	46
6.	Dependent Claim 94.....	47
7.	Dependent Claim 96.....	47
8.	Dependent Claim 99.....	47
9.	Dependent Claim 106.....	49
10.	Dependent Claim 107.....	50
11.	Dependent Claim 108.....	51
12.	Independent Claim 114.....	51
13.	Dependent Claims 127	52
14.	Dependent Claim 128.....	53
15.	Dependent Claim 132.....	53
16.	Dependent Claim 139.....	53
17.	Dependent Claim 140.....	54
18.	Dependent Claim 141.....	54
C.	Ground 3 – Claims 113 and 146 are obvious under 35 U.S.C. §103 in view of Ibaraki '882, Frank, Suga and the General Knowledge of a POSA	54
1.	Motivation to Combine.....	54
2.	Dependent Claims 113 and 146	55
D.	Ground 4 – Claims 41 and 231 are obvious in view of Ibaraki '882, Jurgen, Lateur and the General Knowledge of a POSA	56
1.	Motivation to Combine.....	56
2.	Claim 231	59
IX.	OBJECTIVE INDICIA OF NONOBVIOUSNESS	59
X.	CONCLUSION.....	60
	CERTIFICATE OF SERVICE	61

EXHIBIT LIST

Exhibit No.	Description	Date	Identifier
1450	U.S. Patent No. 7,237,634	July 3, 2007	'634 Patent
1451	Ford Letter to Paice	Sept. 2014	
1452	US Patent 5,789,882	Aug. 4, 1998	Ibaraki '882
1453	US Patent 6,003,626	Dec. 21, 1999	Ibaraki '626
1454	US Patent 5,623,104	Apr. 22, 1997	Suga
1455	Declaration of Gregory Davis		Davis Dec.
1456	Toyota Litigations	2005	Toyota Litigation
1457	Hyundai Litigation	2013-2014	Hyundai Litigation
1458	PTAB Decisions & Preliminary Response in 2014-00571		Ford IPRs
1459	7,237,634 File History (certified)	n/a	'634 Patent File History
1460	Excerpt of USPN 7,104,347 File History	n/a	'347 File History
1461	US Patent 7,104,347	Sept. 12, 2006	'347 Patent
1462	Fundamentals of Vehicle Dynamics (Gillespie)	1992	Gillespie
1463	SAE 760121 (Unnewehr-1976)	Feb. 1, 1976	Unnewehr
1464	Microprocessor Design for HEV (Bumby-1988)	Sept. 1, 1988	Bumby/Masding 1988
1465	SAE SP-1331 (1998)	Feb. 1998	SAE SP-1331
1466	Innovations in Design: 1993 Ford Hybrid Electric Vehicle Challenge	Feb. 1994	
1467	1996 & 1997 Future Car Challenge	Feb. 1997 & Feb. 1998	
1468	Introduction to Automotive Powertrain (Davis)		Davis Textbook
1469	US Application 60-100095	Filed Sept. 11, 1998	'095 Provisional
1470	History of Hybrid Electric Vehicle (Wakefield-1998)	1998	Wakefield
1471	SAE 920447 (Burke-1992)	Feb. 1, 1992	Burke 1992
1472	Vehicle Tester for HEV (Duoba-1997)	Aug. 1, 1997	Duoba 1997

Exhibit No.	Description	Date	Identifier
1473	DOE Report to Congress (1994)	April 1995	1994 Report to Congress
1474	SAE SP-1156 (1996)	Feb. 1996	SAE SP-1156
1475	DOE HEV Assessment (1979)	Sept. 30, 1979	HEV Assessment 1979
1476	EPA HEV Final Study (1971)	June 1, 1971	EPA HEV Final Study
1477	WO 9323263A1 (Field)	Nov. 25, 1998	9323263
1478	Toyota Prius (Yamaguchi-1998)	Jan. 1998	Toyota Prius Yamaguchi 1998
1479	US Patent 6,209,672	April 3, 2001	'672 Patent
1480	Propulsion System for Design for EV (Ehsani-1996)	1996	IEEE Eshani 1996
1481	Propulsion System Design for HEV (Ehsani-1997)	Feb. 1997	IEEE Eshani 1997
1482	Bosch Automotive Handbook (1996)	Oct. 1996	Bosch Handbook
1483	SAE SP-1089 (Anderson-1995)	Feb. 1995	SAE SP-1089
1484	Critical Issues in Quantifying HEV Emissions (An 1998)	Aug. 11, 1998	An 1998
1485	1973 Development of the Federal Urban Driving Schedule (SAE 730553)	May 14-18, 1973	
1486	Gregory Davis Resume		
1487	Gregory Davis Data		
1488	US Patent 4,407,132	Oct. 4, 1983	Kawakatsu
1489	US Patent 6,116,363	Sept. 12, 2000	Frank
1490	US Patent 5,823,280	Oct. 20, 1998	Lateur
1491	Automotive Electronics Handbook (Jurgen)	1995	Jurgen
1492	Bumby, J.R. et al. "Optimisation and control of a hybrid electric car" - IEE Proc. A 1987, 134(6)	Nov. 1987	Bumby II
1493	US Patent 5,343,970	Sept. 6, 1994	Severinsky '970
1494	Paice Complaint	Feb. 25, 2014	

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.