

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

TOYOTA MOTOR CORPORATION,  
Petitioner

v.

GENERAL ELECTRIC CO.,  
Patent Owner

---

Case IPR2019-00011  
Patent No. 7,723,932

---

**DECLARATION OF MAHDI SHAHBAKHTI, PH.D.  
REGARDING U.S. PATENT NO. 7,723,932**

BMW v. Paice, IPR2020-01386

## Contents

I.	Introduction.....	6
II.	Background and Qualifications .....	7
III.	Legal Standards .....	11
IV.	The '932 Patent and Claim Terms.....	13
	A. The '932 Patent .....	13
	B. Claim Construction.....	18
	1. “coupled” .....	18
	2. “propulsion means”.....	19
V.	A Person of Ordinary Skill in the Art.....	20
VI.	Petitioner’s Prior Art.....	21
	A. The <i>Kira</i> Reference .....	21
	B. The <i>Yamada</i> Reference .....	22
	C. The <i>Kumar</i> Reference .....	24
	D. The <i>Hanyu</i> Reference.....	25
	E. The <i>Masahiko</i> Reference.....	27
	F. The <i>Katsuta</i> Reference .....	29
	G. The <i>Suzuki</i> Reference .....	29
VII.	Anticipation of Claims 1, 2, 23, 24, and 30 Based on <i>Kira</i> .....	30
	A. <i>Kira</i> Anticipates Claims 1, 2, 23, 24, and 30 .....	30
	1. Independent Claim 1 .....	30
	2. Dependent Claim 2.....	35
	3. Dependent Claim 23 .....	37

4.	Independent Claim 24 .....	38
5.	Dependent Claim 30 .....	40
VIII.	Obviousness of Claim 3 Based on <i>Kira</i> .....	42
1.	Dependent Claim 3.....	42
IX.	Obviousness of Claims 4 and 18-21 Based on <i>Kira</i> and <i>Kumar</i> .....	45
A.	Rationale to Combine <i>Kira</i> and <i>Kumar</i> .....	45
B.	<i>Kira</i> in view of <i>Kumar</i> Renders Obvious Claim 4.....	48
1.	Dependent Claim 4.....	48
2.	Dependent Claim 18 .....	49
3.	Dependent Claim 19 .....	51
4.	Dependent Claim 20 .....	52
5.	Dependent Claim 21 .....	53
X.	Obviousness of Claims 5, 14, 15, 17, and 22 Based on <i>Kira</i> in view of <i>Hanyu</i> .....	55
A.	Rationale to Combine <i>Kira</i> and <i>Hanyu</i> .....	56
B.	<i>Kira</i> in view of <i>Hanyu</i> Renders Obvious Claim 5, 14, 15, 17, and 22 .....	57
1.	Dependent Claim 5.....	57
2.	Dependent Claim 14 .....	59
3.	Dependent Claim 15 .....	60
4.	Dependent Claim 17 .....	61
5.	Dependent Claim 22 .....	62
XI.	Obviousness of Claims 6-12 Based on <i>Kira</i> in view of <i>Masahiko</i> .....	63
A.	Rationale to Combine <i>Kira</i> and <i>Masahiko</i> .....	63

B.	<i>Kira</i> in view of <i>Masahiko</i> Renders Obvious Claims 6-12 .....	65
1.	Dependent Claim 6.....	65
2.	Dependent Claim 7.....	66
3.	Dependent Claim 8.....	67
4.	Dependent Claim 9.....	69
5.	Dependent Claim 10 .....	70
6.	Dependent Claim 11 .....	71
7.	Dependent Claim 12 .....	73
XII.	Anticipation of Claims 24, 25, 30, 32, and 35 Based on <i>Yamada</i> .....	74
A.	<i>Yamada</i> Anticipates Claims 24, 25, 30, 32, and 35 .....	74
1.	Independent Claim 24.....	74
2.	Dependent Claim 25 .....	79
3.	Dependent Claim 30 .....	80
4.	Independent Claim 32.....	81
5.	Dependent Claim 35 .....	85
XIII.	Obviousness of Claim 34 Based on <i>Yamada</i> .....	86
1.	Dependent Claim 34 .....	86
XIV.	Obviousness of Claim 26 Based on <i>Yamada</i> in view of <i>Katsuta</i> .....	88
A.	Rationale to Combine <i>Yamada</i> and <i>Katsuta</i> .....	88
B.	<i>Yamada</i> in view of <i>Katsuta</i> Renders Obvious Claim 26 .....	89
1.	Dependent Claim 26 .....	89
XV.	Obviousness of Claims 27 and 28 Based on <i>Yamada</i> in view of <i>Suzuki</i> .....	90
A.	Rationale to Combine <i>Yamada</i> and <i>Suzuki</i> .....	90

B.	<i>Yamada</i> in view of <i>Suzuki</i> Renders Obvious Claims 27 and 28 .....	91
1.	Dependent Claim 27 .....	91
2.	Dependent Claim 28 .....	92
XVI.	Obviousness of Claims 29 and 31 Based on <i>Yamada</i> in view of <i>Hanyu</i> .....	93
A.	Rationale to Combine <i>Yamada</i> and <i>Hanyu</i> .....	93
B.	<i>Yamada</i> in view of <i>Hanyu</i> Renders Obvious Claims 29 and 31 .....	95
1.	Dependent Claim 29 .....	95
2.	Dependent Claim 31 .....	97
XVII.	Conclusion .....	98

# 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.