

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,
Petitioner,

v.

RJ TECHNOLOGY, LLC,
Patent Owner.

Case: IPR2023-01183
U.S. Patent No. 7,749,641

DECLARATION OF MARC JUZKOW

TABLE OF CONTENTS

I.	BACKGROUND AND QUALIFICATIONS	1
II.	TECHNICAL OVERVIEW	4
	A. GENERAL PRINCIPLES OF LITHIUM-ION BATTERIES	5
	B. MATERIALS USED IN LI-ION BATTERIES.....	14
	C. CHARGE CUTOFF VOLTAGE AND DESIGN CAPACITY OF ELECTRODES	16
	D. BATTERY PROTECTION CIRCUITS.....	22
III.	MATERIALS CONSIDERED	25
IV.	SUMMARY OF MY OPINIONS AND ANALYSIS	27
V.	LEGAL PRINCIPLES	28
	A. PERSON HAVING ORDINARY SKILL IN THE ART	28
	B. CLAIM CONSTRUCTION	29
	C. LEGAL STANDARDS FOR ANTICIPATION.....	30
	D. LEGAL STANDARDS FOR OBVIOUSNESS	31
	E. ANALOGOUS ART	35
VI.	THE QUALIFICATIONS OF THE PHOSITA	36
VII.	OVERVIEW OF THE '641 PATENT	40
	A. THE '641 PATENT DESCRIPTION	40
	B. EFFECTIVE FILING DATE.....	42
VIII.	THE CLAIMS OF THE '641 PATENT	42
IX.	CLAIM CONSTRUCTION	48
	A. ELEMENT [1P]: “A METHOD FOR IMPROVING . . . CHARACTERIZED IN THAT” ..48	
	B. “A RATIO OF POSITIVE ELECTRODE MATERIAL TO NEGATIVE ELECTRODE MATERIAL OF THE SECONDARY LITHIUM ION CELL OR BATTERY IS FROM 1:1.0 TO 1:2.5 AS CALCULATED BY A SPECIFIC CAPACITY WITH A CHARGE VOLTAGE LIMITED TO 4.2 V” (CLAIM 1); “A RATIO OF POSITIVE ELECTRODE MATERIAL TO NEGATIVE ELECTRODE MATERIAL AS CALCULATED BY A THEORETIC CAPACITY WITH A CHARGE CUT-OFF VOLTAGE SET AT 4.2 V” (CLAIM 5)	49
	C. “AT LEAST 7500 OF CAPACITY” (CLAIM 11)	52
X.	PRIOR ART STATUS OF REFERENCES AND ANALOGOUS ART	52
	A. THE FIELD OF ENDEAVOR OF THE '641 PATENT.....	53

B. UEMURA (EX1009) IS ANALOGOUS ART.....	55
C. ABE (EX1005) IS ANALOGOUS ART.	58
D. GUYOMARD (EX1008) IS ANALOGOUS ART.....	62
E. IWAIZONO (EX1007) IS ANALOGOUS ART.....	67
XI. DETAILED DISCUSSION OF MY OPINIONS REGARDING INVALIDITY.	70
A. GROUND 1: UEMURA ANTICIPATES CLAIMS 1-8.....	70
1. Claims 1 and 5.....	70
2. Claims 2-4 and 6-8.....	93
B. GROUND 2: UEMURA RENDERS CLAIMS 1-8 OBVIOUS AND GROUND 3: UEMURA RENDERS CLAIMS 11-18 OBVIOUS.	95
1. Claims 1-8	96
2. Claims 11-18	101
C. GROUND 4: UEMURA AND GUYOMARD RENDER CLAIMS 11-18 OBVIOUS....	106
1. Claims 11-18: Remaining Capacities After 400 Cycles	106
D. GROUND 5: ABE ANTICIPATES CLAIMS 1-8 AND GROUND 6: ABE RENDERS OBVIOUS CLAIMS 1-8.	113
1. Claims 1 and 5.....	114
2. Claims 2-3 and 6-7	123
3. Claims 4 and 8.....	124
E. GROUND 7: ABE AND GUYOMARD RENDER CLAIMS 2-4, 6-8, AND 11-18 OBVIOUS.....	124
1. Claims 2-3 and 6-7.....	126
2. Claims 4 and 8.....	129
3. Claims 11-18	135
4. A PHOSITA Would Have Found It Obvious To Combine Abe with Guyomard.	137
F. GROUND 8: UEMURA AND IWAIZONO RENDER CLAIM 9 OBVIOUS.....	150
1. Claim 9	150
G. GROUND 9: UEMURA, IWAIZONO, AND GUYOMARD RENDER CLAIMS 9-10 OBVIOUS.....	163
1. Claims 9 and 10.....	163
H. GROUND 10: ABE, GUYOMARD, AND IWAIZONO RENDER CLAIMS 9-10	

OBVIOUS.....168
1. Claims 9 and 10.....168
XII. DECLARATION171

I, Marc Juzkow, hereby declare as follows:

I. BACKGROUND AND QUALIFICATIONS

1. My name is Marc Juzkow, and I have been retained on behalf of Samsung Electronics Co., Ltd. to provide my opinions on the patentability of the claims of United States Patent No. 7,749,641 (“the ’641 patent”). I understand that this declaration may be submitted to the Patent Trial and Appeal Board at the United States Patent and Trademark Office as part of an *inter partes* review proceeding related to the ’641 patent. I am being compensated at my customary rate for the time I spend on this matter. My compensation is not contingent on the content of my opinions nor the outcome of the *inter partes* review proceeding. I have no direct financial interest in any of the parties or this proceeding.

2. In formulating my opinions, I have relied on my knowledge, training, and experience in the relevant field, which I have summarized below. My *curriculum vitae*, which includes a more detailed summary of my background, experience, and publications, is attached to this declaration as Appendix 1.

3. I am a General Partner of Lithiumion Expert Services, LLC. I am also Cell Supplier Lead of Joby Aviation, LLC. I am an expert in the field of lithium-ion cells. I have studied, researched, and practiced in the field of electrochemical cells and packaging for more than 37 years.

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.