
UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FANTASIA TRADING LLC d/b/a ANKERDIRECT.
("ANKER"),
Petitioner

v.

SCRAMOGE TECHNOLOGY LTD.
("SCRAMOGE"),
Patent Owner

Case IPR2022-00499
Patent No. 7,825,537

DECLARATION OF TAMAS SZEPESI, Ph.D.

TABLE OF CONTENTS

| | |
|--|-----------|
| I. Introduction | 9 |
| II. Background and Qualifications | 10 |
| III. Level of Ordinary Skill in the Art | 14 |
| IV. Materials Considered and Relied Upon | 15 |
| V. Legal Standards | 16 |
| A. Legal Standards for Prior Art | 17 |
| B. Legal Standard for Priority Date | 18 |
| C. Legal Standard for Anticipation | 19 |
| D. Legal Standard for Obviousness | 19 |
| VI. Technology Overview | 21 |
| A. Switching voltage regulators | 21 |
| B. Switching voltage regulator control | 24 |
| C. Buck converter with voltage mode control | 26 |
| D. Wireless power transfer systems | 32 |
| VII. Overview of the '537 Patent | 43 |
| A. Subject Matter Overview | 43 |
| B. File History of the '537 patent | 51 |
| C. Interpretation of the '537 Patent Claims at Issue | 52 |
| VIII. Overview of the Cited References | 53 |
| A. Baarman (EX1004) | 53 |
| B. Partovi-002 (EX1005) | 63 |
| C. Partovi-413 (EX1006) | 64 |
| D. Flowerdew (EX1007) | 65 |

| | | |
|------------|--|-----------|
| E. | Jang (EX1010)..... | 67 |
| IX. | Ground 1(A): BAARMAN IN VIEW OF PARTOVI-002 RENTERS CLAIMS 1-5, 8-16, 19-22, AND 28 OBVIOUS..... | 69 |
| A. | Independent claim 1 | 69 |
| | [1.P] A method for inductively transferring power from a base unit providing input power, to a target unit providing output power, where the base unit and the target unit are electrically isolated, comprising: | 70 |
| | [1.1] positioning a second inductive element of said target unit within a predetermined distance of a first inductive element of said base unit;..... | 71 |
| | [1.2] applying a time varying electric current to said first inductive element to produce a time varying magnetic field, said time varying magnetic field induces an electric current in said second inductive element;..... | 75 |
| | [1.3] monitoring at least one parameter indicative of an efficiency of power transfer from said base unit to said target unit; | 75 |
| | [1.4] automatically adjusting at least one characteristic of said time varying electric current responsive to said parameter to maximize an efficiency of power transfer from said base unit to said target unit. | 80 |
| B. | Claim 2 | 80 |
| C. | Claim 3 | 81 |
| D. | Claim 4 | 81 |
| E. | Claim 5 | 83 |
| F. | Claim 8 | 87 |
| G. | Claim 9 | 89 |
| H. | Claim 10 | 91 |
| I. | Claim 11 | 92 |

| | | |
|----|---|-----|
| J. | Independent claim 12 | 92 |
| | [12.P] An inductive power transfer system, comprising: | 93 |
| | [12.1] a base unit comprising a first inductive element configured for providing input power to a second inductive element of a target unit providing output power, said base unit electrically isolated from said target unit; 93 | |
| | [12.2] a positioning structure provided on at least one of said base unit and said target unit for removably positioning said second inductive element at a predetermined orientation and distance relative to said first inductive element; | 94 |
| | [12.3] a switch element configured for selectively applying a time varying electric current to said first inductive element to produce a time varying magnetic field, said time varying magnetic field inducing an electric current in said second inductive element; and | 96 |
| | [12.4] a control circuit configured for monitoring at least one parameter indicative of an efficiency of power transfer from said base unit to said target unit, and | 97 |
| | [12.5] automatically adjusting at least one characteristic of said time varying electric current responsive to said parameter to maximize an efficiency of power transfer from said base unit to said target unit. | 98 |
| K. | Claim 13 | 98 |
| L. | Claim 14 | 98 |
| M. | Claim 15 | 99 |
| N. | Claim 16 | 100 |
| O. | Claim 19 | 103 |
| P. | Claim 20 | 103 |
| Q. | Claim 21 | 104 |

| | | |
|------------|---|------------|
| R. | Claim 22 | 104 |
| S. | Independent claim 28 | 104 |
| | [28.P] A method for inductively transferring power from a base unit providing input power, to a target unit providing output power, where the base unit and the target unit are electrically isolated from each other, comprising:..... | 105 |
| | [28.1] positioning a second inductive element of said target unit within a predetermined distance of a first inductive element of said base unit;..... | 105 |
| | [28.2] applying a time varying electric current to said first inductive element to produce a time varying magnetic field having an operating frequency, said time varying magnetic field inducing an electric current in said second inductive element; | 106 |
| | [28.3] monitoring at least one parameter of an electronic component of said base unit that is indicative of an efficiency of power transfer from said base unit to said target unit; and | 106 |
| | [28.4] automatically adjusting said operating frequency based on a value of said parameter to maximize said efficiency of power transfer from said base unit to said target unit. | 108 |
| X. | Ground 1(B): BAARMAN IN VIEW OF PARTOVI-002 AND PARTOVI-413 RENDERS CLAIMS 6-7 AND 17-18 OBVIOUS | 108 |
| A. | Overview of Combination..... | 108 |
| B. | Claim 6 | 110 |
| C. | Claim 7 | 112 |
| D. | Claim 17 | 113 |
| E. | Claim 18 | 113 |
| XI. | Ground 2(A): FLOWERDEW ANTICIPATES CLAIMS 1-2, 8, 10-11, AND 28 | 114 |
| A. | Independent claim 1 | 114 |

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.