UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

CALIFORNIA INSTITUTE OF TECHNOLOGY,
Patent Owner.

Case IPR2017-00219
Patent 7,116,710

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

TABLE OF CONTENTS

I. INTRODUCTION 1

II. ARGUMENT 1

A. The Challenged Claims are Obvious 1

1. Divsalar in view of Luby renders claims 1-8 and 11-14 obvious 1

2. Divsalar in view of Luby and Luby97 renders claims 15-17, 19-22, and 24-33 obvious 13

3. Caltech fails to establish a nexus between its alleged objective evidence of non-obviousness and the claimed invention 14

B. Caltech Mischaracterizes the Testimony of Petitioner's Expert, Prof. Davis. 17

C. Caltech Fails to Antedate Frey. 21

1. Frey was publicly available before Caltech's alleged conception date. 22

2. Caltech fails to corroborate its alleged date of conception. 23

3. Caltech fails to demonstrate diligence. 26

III. CONCLUSION.....27

I. INTRODUCTION

The Patent Owner Response ("POR") filed by Caltech fails to rebut Petitioner's showing that the challenged claims are unpatentable. First, Caltech mischaracterizes the teachings of Divsalar and Luby. Second, Caltech has failed to demonstrate secondary considerations of non-obviousness. Third, Caltech mischaracterizes the testimony of Petitioner's expert, Prof. Davis. Finally, Caltech's alleged pre-filing activity fails to antedate the Frey reference.

II. ARGUMENT

A. The Challenged Claims are Obvious

1. *Divsalar in view of Luby renders claims 1-8 and 11-14 obvious*

The POR relies on the same arguments that the Board preliminarily rejected—irregularity, partitioning, and combinability—and should reject again. POPR, 13-35; DI, 22.

i. Luby teaches irregular repetition of information bits

Caltech asserts that is unclear whether Luby's irregular message nodes result from irregular information bits, irregular parity bits, or both. *See* POR, 19-26. Caltech is mistaken.

Luby teaches that its codes have "rate ½ with 16,000 message bits and 8,000 check bits." Ex. 1204, 256. This means that each of Luby's codewords contain 8,000 information bits and 8,000 parity bits. Luby's Table 1 provides parameters for

four codes. POR, 26. As Prof. Frey explains, the lambda values in Luby's table correlate to the number of nodes of each degree. The table below summarizes the percentages and total number of each type of message node for two codes in Table 1.

Code	Percentages of messages nodes of each degree
22	Degree 5 Message Nodes: ~63% (~10,080 nodes) Degree 6 Message Nodes: ~23% (~3,680 nodes) Degree 27 Message Nodes: ~3% (~480 nodes) Degree 29 Message Nodes: ~4% (~640 nodes) Degree 30 Message Nodes: ~4% (~640 nodes) Degree 100 Message Nodes: ~3% (~480 nodes)
14'	Degree 3 Message Nodes: ~22% (~3,520 nodes) Degree 4 Message Nodes: ~61% (~9,760 nodes) Degree 21 Message Nodes: ~5% (~800 nodes) Degree 23 Message Nodes: ~12% (1,920 nodes)

Ex. 1265, ¶¶21-27.[1]

Prof. Frey explains that in implementations of Luby's codes, the information bits would have different degrees. For example, in Luby's Code 22, some of the information bits would have degree 100 and others would have degree 30. Similarly, in Luby's Code 14', some of the information bits would have degree 23 and others would have degree 21. Ex. 1265, ¶¶28-29.

[1] After submitting his declaration, Dr. Davis relocated to Europe pursuant to a Fulbright Global Scholar Award. As a result, he was unavailable to work on the Reply. Petitioner's Reply is instead supported by the Declaration of Dr. Frey.

DOCKET ALARM

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.