

By: Christopher Frerking ([chris@ntknet.com](mailto:chris@ntknet.com))  
Reg. No. 42,557

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

LAM RESEARCH CORP.,

Petitioner

v.

DANIEL L. FLAMM,

Patent Owner

CASE IPR2015-01767  
U.S. Patent No. 6,017,221

**PATENT OWNER'S PRELIMINARY RESPONSE  
UNDER 37 C.F.R. § 42.107**

Mail Stop: PATENT BOARD  
Patent Trial and Appeal Board  
U.S. Patent & Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

**TABLE OF CONTENTS**

TABLE OF CONTENTS.....i

TABLE OF AUTHORITIES.....ii

I. Introduction .....1

II. Overview of the ‘221 Patent.....1

III. The Petitioner Fails To Satisfy Its Burden.....2

    A. Horizontal Redundancy.....2

    B. Lieberman.....3

    C. Dible.....8

    D. Dependent Claims.....12

IV. Conclusion.....13

CERTIFICATE OF SERVICE.....14

**TABLE OF AUTHORITIES**

<i>Statutes</i>	<i>Page(s)</i>
35 U.S.C. § 103.....	8
37 C.F.R. § 42.107.....	1
<i>Cases</i>	<i>Page(s)</i>
<i>Hartness Int'l Inc. v. Simplimatic Eng. Co.</i> , 819 F.2d 1100 (Fed. Cir. 1987).....	13
<i>Kimberly Clark Corp. v. Johnson &amp; Johnson</i> , 745 F.2d 1437 (Fed. Cir. 1984).....	13
<i>Liberty Mutual Ins. Co. v. Progressive Cas. Ins. Co.</i> , CBM2012-0003, Paper No. 7 at 2 (P.T.A.B. Nov. 26, 2012).....	13

Daniel L. Flamm, Sc.D., the sole inventor and owner of the U.S. Patent No. 6,017,221 (“the ‘221 patent”), through his counsel, submits this preliminary response pursuant to 37 C.F.R. § 42.107 and asks that the Patent Trial and Appeals Board decline to institute *inter partes* review on the instant petition because the petition fails to show a reasonable likelihood that any claim is unpatentable.

## **I. Introduction**

Lam makes two invalidity contentions for the single independent claim of the ‘221 patent; anticipation via either of the Lieberman references (Ex’s 1002 and 1012) and obviousness via either of the Lieberman references in view of the Dible patent (Ex. 1003). As will be demonstrated, neither ground supports *inter partes* review.

## **II. Overview of the ‘221 Patent**

The problems that Dr. Flamm was addressing in making the invention of the ‘221 patent were reduction, elimination, and/or control of ion bombardment or ion flux to semiconductor device surfaces being processed in inductively coupled plasmas, while maintaining desired etching selectivity. (Ex. 1001 at 2:7-:16.)

Conventional ion assisted plasma etching, however, often requires control and maintenance of ion flux intensity and uniformity within selected process limits and within selected process energy ranges. Control and maintenance of ion flux intensity and uniformity are often difficult to achieve using conventional techniques. For instance, capacitive coupling between high voltage selections of the coil and the

plasma discharge often cause high and uncontrollable plasma potentials relative to ground.

(*Id.* at 2:64-3:2.)

The specification discusses at length the “conventional techniques,” including “shields, baffles, large separation distances between the plasma source and the chamber.” (*Id.* at 2:17-:19; *see also generally id.* at 1:44-4:57.) The specification also discusses the many drawbacks of these conventional techniques. (*Id.* at 1:44-4:57.)

Dr. Flamm's solution, as reflected in claim 1 of the patent, was to balance the phase and anti-phase portions of capacitive currents coupled from the inductive coupling structure using a wave adjustment circuit. Instead of suppressing the charged species, as conventional techniques had done via blockage or distance, Dr. Flamm went to the source of the ion flux problem and reduced or eliminated the undesired capacitive ion current flux.

### **III. The Petitioner Fails To Satisfy Its Burden**

#### **A. Horizontal Redundancy**

At the threshold, Lam relies on multiple prior art references to satisfy several claims elements in the petition. For example, Lam cites to the Lieberman references (Ex's 1002 and 1012) and to Dible (Ex. 1003) for each and every element of claims 1, 5, and 6 on Ground 2. (Pet. at 39-42, 44-45.) Lam also cites

# 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.