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APPLICATION TRANSMITTAL

66474 U.S. PTO
08/866040
05/30/97

68904 U.S. PTO

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, CA 94111-3834
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Atty. Docket No. 16655-000311

"Express Mail" Label No. EM140585524US

Date of Deposit May 30, 1997

PATENT APPLICATION
ASSISTANT COMMISSIONER FOR PATENTS
Washington, D. C. 20231

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Assistant Commissioner for Patents
Washington, D.C. 20231

By *Richard T. Ogawa*

Sir:
Transmitted herewith for filing is the [] patent application,
[] design patent application, [X] continuation-in-part patent
application of

Inventor(s): Daniel L. Flamm

For: PROCESS DEPENDING ON PLASMA DISCHARGES SUSTAINED BY INDUCTIVE COUPLING

[X] This application claims priority from each of the following Application Nos./filing dates:
08/567.224 / December 4, 1995 ; 08/736.315 / October 23, 1996 ;

[] Please amend this application by adding the following before the first sentence: --This application claims the benefit of U.S. Provisional Application No. 60/_____, filed _____, the disclosure of which is incorporated by reference.--

Enclosed are:

- [X] Patent Application (incl. 36 pages spec., 1 pages claims, 1 page abstract).
- [X] 13 sheet(s) of [] formal [X] informal drawing(s).
- [] An assignment of the invention to _____.
- [] A [] signed [] unsigned Declaration & Power of Attorney.
- [] A verified statement to establish small entity status under 37 CFR 1.9 and 37 CFR 1.27 [] is enclosed [] was filed in the earliest of the above-identified patent application(s).
- [] A certified copy of a _____ application.
- [] Information Disclosure Statement under 37 CFR 1.97.
- [] A petition to extend time to respond in the parent application of this continuation-in-part application.
- [X] Postcard.

Pursuant to 37 CFR 1.53, Applicant requests deferral of the filing fee until submission of the Missing Parts of Application.

Respectfully submitted,
TOWNSEND and TOWNSEND and CREW LLP

Richard T. Ogawa

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Reg. No.: 37,692
Attorneys for Applicant

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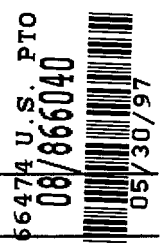
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PATENT APPLICATION

PROCESS DEPENDING ON PLASMA DISCHARGES SUSTAINED BY INDUCTIVE COUPLING

Inventor:

Daniel L. Flamm, a citizen of the United States, residing at 476 Green View Drive, Walnut Creek, California 94596;

Entity Status:

Small

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PROCESS DEPENDING ON PLASMA DISCHARGES SUSTAINED
BY INDUCTIVE COUPLING

5 **CROSS REFERENCES TO RELATED APPLICATIONS**

This application is a continuation-in-part of Application Serial No. 08/736,315 filed October 23, 1996 which is a continuation of Application Serial No. 08/567,224 filed December 4, 1995. All of these documents are hereby incorporated by reference for all purposes.

10

BACKGROUND OF THE INVENTION

15 This invention relates generally to plasma processing. More particularly, the invention is for plasma processing of devices using an inductive discharge. This invention is illustrated in an example with regard to plasma etching and resist stripping of semiconductor devices. The invention also is illustrated with regard to chemical vapor deposition (CVD) of semiconductor devices. But it will be recognized that the invention has a wider range of applicability. Merely by way of example, the invention also can be applied in other plasma etching applications, and deposition of materials such as silicon, silicon dioxide, silicon nitride, polysilicon, among others.

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25 Plasma processing techniques can occur in a variety of semiconductor manufacturing processes. Examples of plasma processing techniques occur in chemical dry etching (CDE), ion-assisted etching (IAE), and plasma enhanced chemical vapor deposition (PECVD), including remote plasma deposition (RPCVD) and ion-assisted plasma enhanced chemical vapor deposition (IAPECVD). These plasma processing techniques often rely upon radio frequency power (rf) supplied to an inductive coil for providing power to gas phase species in forming a plasma.

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Plasmas can be used to form neutral species (i.e., uncharged) for purposes of removing or forming films in the manufacture of integrated circuit devices. For instance, chemical dry etching generally depends on gas-surface reactions involving these neutral species without substantial ion bombardment.

35

In other manufacturing processes, ion bombardment to substrate

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