Trials@uspto.gov
571-272-7822

Paper 11
Entered: October 10, 2014

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

THE GILLETTE COMPANY,
Petitioner,

v.

ZOND, LLC,
Patent Owner.

Case IPR2014-00580
Patent 6,896,773 B2

Before KEVIN F. TURNER, DEBRA K. STEPHENS, JONI Y. CHANG, SUSAN L. C. MITCHELL, and JENNIFER M. MEYER, *Administrative Patent Judges*.

STEPHENS, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

On April 30, 2014, Gillette Corporation ("Gillette") filed a Revised Petition requesting *inter partes* review of claims 1–20 and 34–39 ("the challenged claims") of U.S. Patent No. 6,896,773 B2 ("the '773 patent"). Paper 7 ("Pet."). Zond, LLC ("Zond") filed a Patent Owner Preliminary Response. Paper 10 ("Prelim. Resp."). We have jurisdiction under 35 U.S.C. § 314.

The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides:

> THRESHOLD.—The Director may not authorize an inter partes review to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.

Taking into account Zond's Preliminary Response, and based on the information presented in the Petition, we are persuaded a reasonable likelihood exists that Gillette would prevail in challenging claims 1–20 and 34–39 as unpatentable. Pursuant to 35 U.S.C. § 314, we hereby authorize an *inter partes* review as to claims 1–20 and 34–39 of the '773 patent.

A. Related Matters

Gillette indicates the '773 patent was asserted in *Zond, LLC v. The Gillette Co.*, No.1:13-CV-11567-DJC (D. Mass.). Pet. 1 and Paper 5. Gillette also identifies other matters where Zond asserted the claims of the '773 patent against third parties. *Id.*

B. The ’773 patent

The ’773 patent relates to a method and an apparatus for high-deposition sputtering. Ex. 1001, Abs. At the time of the invention, sputtering was a well-known technique for depositing films on semiconductor substrates. *Id*. at 1:5–6. According to the ’773 patent, conventional magnetron sputtering systems deposit films with relatively low uniformity. *Id.* at 1:53–54. Although film uniformity can be increased by mechanically moving the substrate and/or magnetron, the ’773 patent indicates such systems are relatively complex and expensive to implement. *Id.* at 1:54–57. The’773 patent further states conventional magnetron sputtering systems also have relatively poor target utilization (how uniformly the target material erodes during sputtering) and a relatively low deposition rate (the amount of material deposited on the substrate per unit of time). *Id.* at 1:57–66.

To address these issues, the ’773 patent discloses that increasing the sputtering yield (the number of target atoms ejected from the target per incident particle) will increase the deposition rate. *Id.* at 2:1–4. However, dramatically increasing power applied to plasma, although resulting in more uniform erosion of target 116 and high sputtering yield, may increase the probability of an electrical break-down condition leading to an undesirable electrical discharge between cathode assembly 114 and anode 130, regardless of pulse duration. *Id.* at 4:29–36. This undesirable electrical discharge will corrupt the sputtering process, causing contamination in vacuum chamber 104, and will overheat the target, causing target damage.

Id. at 4:37–40.

Figure 4 is reproduced below:

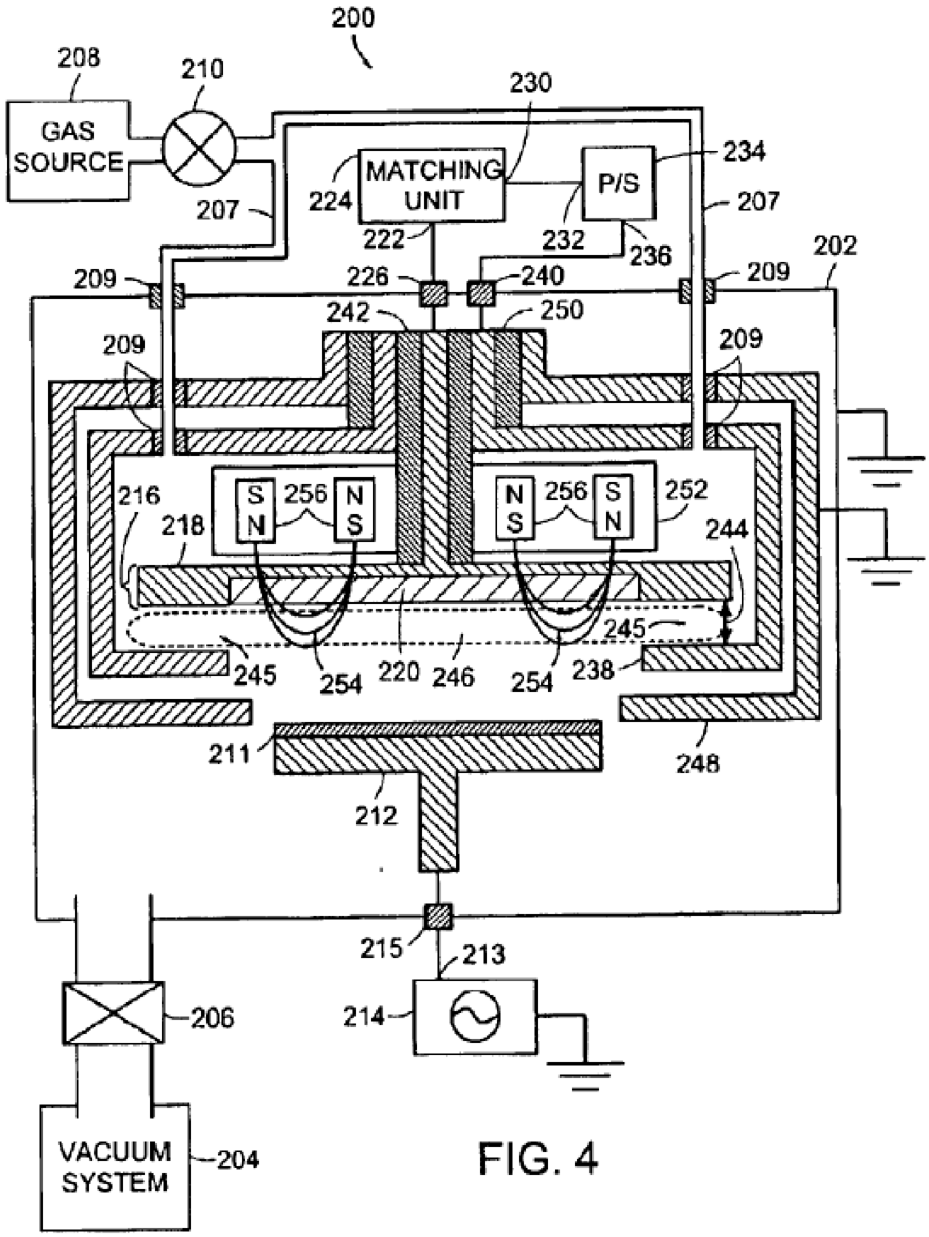

FIG. 4

Figure 4 illustrates a cross-sectional view of magnetron sputtering apparatus 200. As illustrated by Figure 4, in one embodiment, magnetron sputtering apparatus 200 includes vacuum chamber 202 electrically coupled to ground and to feed gas source 208 by one or more feed gas lines 207. *Id.* at 5:60–6:2. Magnetron sputtering apparatus 200 includes cathode assembly 216, which includes sputtering target 220. *Id.* at 6:22–28. Pulsed power supply 234 is coupled directly or indirectly to both cathode assembly 216 and anode 238. *Id.* at 6:40–57. Anode 238 is positioned to form gap 244 between anode 238 and cathode assembly 216 sufficient to allow current to flow through region 245 between anode 238 and cathode assembly 216. *Id.* at 7:3–7.

Feed gas is supplied to chamber 202 directly between cathode assembly 216 and anode 238, allowing increase of flow rate of the gas. *Id.* at 7:44–49. "Increasing the flow rate of the gas allows longer duration impulses and thus, can result in the formation [of] higher density plasmas." *Id.* at 7:49–51.

An ionization source includes pulsed power supply 234 that applies a voltage pulse (a pre-ionizing voltage) having an amplitude and shape between cathode assembly 216 and anode 238 across feed gas 256, such that a weakly-ionized plasma is generated. *Id.* at 7:53–62. Once the weakly-ionized plasma is formed, power supply 234 applies high-power pulses between cathode assembly 216 and anode 238, across weakly-ionized plasma 262, generating strongly-ionized plasma 268 from weakly-ionized plasma 262. *Id.* at 8:65–9:1, 13:41–45; Figs. 5B–5D. Electric field 266

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.