

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

GENERAL ELECTRIC CO.,  
Petitioner,

v.

UNITED TECHNOLOGIES CORP.,  
Patent Owner.

---

Case No. IPR2016-01289  
U.S. Patent No. 7,060,360 B2

---

**PETITIONER'S BRIEF ON REMAND**

## TABLE OF CONTENTS

ARGUMENT.....	1
A.    Terentieva Discloses the Claimed Bond Layer .....	2
B.    Response to UTC’s Anticipated Arguments .....	6

## TABLE OF AUTHORITIES

<i>In re Cuozzo Speed Techs., LLC</i> , 793 F.3d 1268 (Fed. Cir. 2015) .....	7
<i>In re Epstein</i> , 32 F.3d 1559 (Fed. Cir. 1994) .....	7
<i>In re Graves</i> , 69 F.3d 1147 (Fed. Cir. 1995).....	6
<i>United Tech. Corp. v. General Electric Co.</i> , 2019 WL 332754 (Fed. Cir. Jan. 25, 2019).....	1

## TABLE OF ABBREVIATIONS

GE	Petitioner General Electric Company
UTC	Patent Owner United Technologies Corporation
FWD	Final Written Decision Finding Claims 1-14 Unpatentable, 35 U.S.C. § 318 and 37 C.F.R. § 42.73, filed December 19, 2017 (Paper 25)
Pet.	Petition for Inter Partes Review of U.S. Patent No. 7,060,360, filed June 28, 2016 (Paper 1)
Reply	Petitioner's Reply Brief in Support of its Petition for Inter Partes Review of U.S. Patent No. 7,060,360, filed June 27, 2016 (Paper 16)
360 Patent	U.S. Patent No. 7,060,360 B2, issued June 13, 2006 to Harry E. Eaton et al. (Ex. 1001)
Glaeser Decl.	Declaration of Andreas M. Glaeser, Ph.D. (Ex. 1003)
Terentieva	U.S. Patent No. 5,677,060, issued October 14, 1997 to Valentina Sergeevna Terentieva et al. (Ex. 1005)
Eaton	U.S. Patent No. 6,387,456 B1, issued May 14, 2002 to Harry Edwin Eaton, Jr. et al. (Ex. 1006)
POSITA	Person of Ordinary Skill in the Art
[Citation]	Identification of "record evidence previously cited in substantive brief" pursuant to Order on Remand Procedure and Briefing Schedule (Paper 28)
Emphasis	All emphasis added unless otherwise noted

GE hereby submits its Brief on Remand pursuant to the Board's April 5, 2019 Remand Order (Paper 28) for this IPR concerning the 360 Patent.

On January 25, 2019, the Federal Circuit issued its opinion in which it adopted UTC's construction of the claim term "bond layer," defining it as "a layer of material designed to adhere another layer to a substrate." *United Tech. Corp. v. General Electric Co.*, 2019 WL 332754, \*2 (Fed. Cir. Jan. 25, 2019). The Court remanded to the Board to consider invalidity under the Court's construction.

As explained herein, the evidence shows that the challenged claims of the 360 Patent (claims 1-14) are unpatentable under 35 U.S.C. § 103 under the Court's construction of "bond layer." Terentieva teaches that its "bond layer" (referred to as a "coating" in Terentieva and composed of the same refractory metal disilicide/silicon eutectic as claimed in the 360 Patent) has adherent properties and thus is designed to adhere another layer to a substrate. As the Court's opinion does not impact any other aspect of the Board's invalidity finding in the FWD, including motivation to combine and reasonable expectation of success, the Board may confirm the invalidity of the challenged claims upon determining that Terentieva meets the Court's claim construction for "bond layer."

## ARGUMENT

Claim 1 of the 360 Patent requires a "silicon based substrate," at least one "environmental barrier layer" ("EBL") that is an alkaline earth aluminosilicate

based on, e.g., barium and strontium, and a “bond layer” between the substrate and EBL that “comprises an alloy comprising a refractory metal disilicide/silicon eutectic.” GE-1001, claim 1. The Board found that “Terentieva discloses a silicon-containing substrate coated with a refractory metal disilicide/silicon eutectic layer, which meets the compositional requirements of the ‘bond layer’ specified by claim 1.” FWD at 11-12 (hereinafter, Terentieva’s “coating layer”). The Board found that Eaton (Ex. 1006) “describes a prior art BSAS coating [‘alkaline earth aluminosilicate based on barium and strontium,’ FWD at 3] that meets the compositional requirements of the [EBL] specified in claim 1.” *Id.* at 12.

After thoroughly considering the evidence (*id.* at 12-20), the Board found that a POSITA “would have been led to apply Eaton’s BSAS layer over the article disclosed in Terentieva, and that the modified article would have met every limitation of claim 1.” *Id.* at 20. The Board thus held claim 1 unpatentable, and, upon consideration of the parties’ evidence and arguments concerning the dependent claims, also found claims 2-14 would have been obvious over the Terentieva/Eaton combination. *Id.* at 20-22.

#### **A. Terentieva Discloses the Claimed Bond Layer**

The question on remand is whether the Terentieva coating layer meets the Court’s claim construction of “bond layer,” that is, whether it is designed to adhere another layer to a substrate. The evidence confirms that it does.

# 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.