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Paper 9
Entered: January 22, 2020

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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UNITED LABORATORIES INTERNATIONAL, LLC,
Petitioner,

v.

REFINED TECHNOLOGIES, INC.,
Patent Owner.

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IPR2019-01544
Patent 9,017,488 B2

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Before JO-ANNE M. KOKOSKI, JON B. TORNQUIST, and ELIZABETH M. ROESEL, *Administrative Patent Judges.*

ROESEL, *Administrative Patent Judge*.

# DECISION
Denying Institution of *Inter Partes* Review
*35 U.S.C. § 314, 37 C.F.R. § 42.4*

# I. INTRODUCTION

## A. *Background and Summary*

United Laboratories International, LLC ("Petitioner") filed a Petition (Paper 2, "Pet.") seeking *inter partes* review of claims 1–20 (the "challenged claims") of U.S. Patent No. 9,017,488 B2 ("the '488 Patent"). Refined Technologies, Inc. ("Patent Owner") filed a Preliminary Response. Paper 7 ("Prelim. Resp.").

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2012); 37 C.F.R. § 42.4(a) (2019). An *inter partes* review may not be instituted "unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a) (2012). Applying this standard, and upon consideration of the information presented in the Petition and the Preliminary Response, we determine Petitioner has not established a reasonable likelihood that it would prevail with respect to at least one of the claims challenged in the Petition. Therefore, institution of an *inter partes* review is denied.

## B. *Real Parties in Interest*

Pursuant to 37 C.F.R. § 42.8(b)(1), Petitioner identifies United Laboratories International, LLC as the real party in interest. Paper 8, 2 (Updated Mandatory Notices). Patent Owner identifies Refined Technologies, Inc. as the real party in interest. Paper 6, 1 (Updated Mandatory Notices).

## C. *Related Matters*

Pursuant to 37 C.F.R. § 42.8(b)(2), the parties identify the following civil action involving the '488 Patent: *Refined Technologies, Inc. v. United*

*Laboratories International, LLC*, No. 4:19-cv-4676 (S.D. Tex.). Prelim. Resp. 1; Paper 8, 2. The parties also identify IPR2019-01540 in which Petitioner challenges U.S. Patent No. 8,480,812 B2 ("the '812 Patent"). Paper 6, 1; Paper 8, 2. The '488 Patent claims the benefit as a continuation-in-part of the application that issued as the '812 Patent. Ex. 1001, code (63).

*D. The '488 Patent*

The '488 Patent pertains to the operation and maintenance of chemical plants and refineries. Ex. 1001, 1:8–9. The '488 Patent discloses a process for cleaning the internal surfaces of catalytic reactors, media-packed vessels, and other processing equipment by removing hydrocarbon contaminants and noxious gases from such surfaces. *Id.* at codes (54), (57), 1:9–13; *see also id.* at 3:25–26, 7:2–9, Fig. 1 (describing and illustrating equipment of a "typical process system" that may be cleaned by the disclosed process). The process is carried out in the vapor phase without using steam. *Id.* at code (57). A non-aqueous cleaning agent containing one or more solvents is injected into contaminated equipment, along with a carrier gas, in the form of a cleaning vapor. *Id.* at code (57), 3:30–34. According to the '488 Patent, "[t]he carrier gas volatilizes the solvent and delivers it throughout the internal spaces and surface areas of the equipment to be cleaned, allowing the solvent to quickly dissolve organic residues from the vessel and carry away noxious gases." *Id.* at 3:34–38.

The '488 Patent discloses that the cleaning agent may be an organic solvent, such as terpenes. *Id.* at code (57), 5:43–55. The carrier gas may be nitrogen, hydrogen, or a dry gas having the chemical formula $C_nH_{2n+2}$, where n is an integer greater than 0 but less than 6, for example, ethane or methane. *Id.* at 4:7–16. According to the '488 Patent, the disclosed process may be

used to remove organic contaminants, such as "crude oil and its derivatives produced through the refining process, or hydrocarbons," and noxious gases, such as "hydrogen sulfide, benzene, carbon monoxide, and light end hydrocarbons." *Id.* at 4:17–25.

*E. Illustrative Claims*

The '488 Patent includes 20 claims, all of which are challenged in the Petition. Claim 1 is the sole independent claim and is reproduced below, with bracketed designations added to correspond with Petitioner's identification of claim elements:

> 1. [preamble] A method for removing a contaminant from a process system, comprising the steps of:
>
> [1.1] (i) providing a water-free carrier gas source;
>
> [1.2] (ii) providing a non-aqueous solvent source;
>
> [1.3] (iii) volatilizing non-aqueous solvent from the non-aqueous solvent source in water-free carrier gas from the carrier gas source and delivering the carrier gas containing the volatilized non-aqueous solvent to the process system and
>
> [1.4] (iv) removing said contaminant out of said system, wherein a substantial amount of said contaminant is dissolved in said solvent in a vapor or liquid state as it is being removed from said system.

Ex. 1001, 9:38–50; *see also* Pet. 21–26 (identifying claim elements).

*F. Asserted Grounds and Evidence*

Petitioner challenges claims 1–20 based on the following grounds of unpatentability:

| Claims Challenged | 35 U.S.C. § | References |
|---|---|---|
| 1–6, 9–13 | 103(a) | Foutsitzis,[1] Allen[2] |

[1] Ex. 1003 (Foutsitzis et al., US 5,035,792, issued July 30, 1991).
[2] Ex. 1004 (Allen, US 4,008,764, issued Feb. 22, 1977).

| Claims Challenged | 35 U.S.C. § | References |
|---|---|---|
| 7, 8, 14–20 | 103(a) | Foutsitzis, Allen, Jansen[3] |

Petitioner relies on a Declaration of Benjamin A. Wilhite, Ph.D. Ex. 1002.

## II. ANALYSIS

### *A. Legal Standards*

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved based on underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

"In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim")); *see also* 37 C.F.R. § 42.104(b) (requiring a petition for *inter partes* review to identify how the challenged claim is to be construed and where each

[3] Ex. 1005 (Jansen et al., US 6,936,112 B2, issued Aug. 30, 2005).

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