

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHEVRON ORONITE COMPANY LLC,
Petitioner,

v.

INFINEUM USA L.P.,
Patent Owner.

IPR2018-00922
Patent 6,723,685 B2

Before JON B. TORNQUIST, MICHELLE N. ANKENBRAND, and
JULIA HEANEY, *Administrative Patent Judges*.

TORNQUIST, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Chevron Oronite Company LLC (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–20 of U.S. Patent No. 6,723,685 B2 (Ex. 1001, “the ’685 patent”). Infineum USA L.P. (“Patent Owner”) did not file a Preliminary Response to the Petition.

Upon consideration of the Petition and the evidence of record, we determined that Petitioner demonstrated a reasonable likelihood that it would prevail with respect to at least one claim of the ’685 patent. Paper 6, 20 (“Dec.”). Thus, consistent with the Supreme Court’s decision in *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018), and USPTO Guidance,¹ we instituted review of all challenged claims on all challenged grounds.

Following institution of trial, Patent Owner filed a Patent Owner Response (Paper 13, “PO Resp.”), Petitioner filed a Reply (Paper 16, “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 22, “Sur-reply”). In support of their respective positions, Petitioner relies on the testimony of Dr. Donald J. Smolenski (Ex. 1002) and Dr. Syed Q. A. Rizvi (Ex. 1055), and Patent Owner relies on the testimony of Dr. Jai Bansal (Ex. 2003).

An oral hearing was held on August 30, 2019, and a transcript of the hearing is included in the record (Paper 32, “Tr.”).

¹ In accordance with USPTO Guidance, “if the PTAB institutes a trial, the PTAB will institute on all challenges raised in the petition.” *See* USPTO, Guidance on the Impact of SAS on AIA Trial Proceedings (April 26, 2018) (available at <https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial>) (“USPTO Guidance”).

A. Related Proceedings

The parties identify *Infineum USA LP v. Chevron Oronite Company LLC*, Case No. 1-18-cv-00323 (D. Del.), as a related matter. Pet. 2; Paper 4, 1. The '685 patent was also the subject of IPR2018-00923 (institution denied) and IPR2018-00924 (institution denied). Paper 4, 1; Pet. 2.

B. The '685 Patent

The '685 patent is directed to lubricating oil compositions that “exhibit simultaneously improved low temperature valve train wear performance, excellent compatibility with fluoroelastomer materials commonly used for seals in modern internal combustion engines, and improved fuel economy properties.” Ex. 1001, 1:4–9.

The '685 patent explains that lubricating oil compositions for combustion engines typically contain a base oil of lubricating viscosity, as well as various additives used “to improve detergency, to reduce engine wear, to provide stability against heat and oxidation, to reduce oil consumption, to inhibit corrosion, to act as a dispersant, and to reduce friction loss.” *Id.* at 1:12–19. The '685 patent further explains that “[s]ome additives provide multiple benefits, such as dispersant-viscosity modifiers,” whereas other additives improve one characteristic of the lubricating oil while adversely affecting one or more other characteristics. *Id.* at 1:19–22.

The '685 patent discloses that when “small amounts of one or more oil soluble molybdenum compounds,” an ashless, organic, nitrogen-free friction modifier, zinc dihydrocarbyl dithiophosphate (ZDDP), and a calcium detergent are added to a base oil having a viscosity of at least 95 and

a Noack volatility² of less than 15%, a low-cost lubricating composition with improved fuel economy, excellent wear protection, and reduced adverse effects on fluoroelastomer seals is provided. *Id.* at 2:1–8, 2:47–55.

C. Illustrative Claim

Petitioner challenges claims 1–20 of the '685 patent. Independent claim 1 is illustrative of the challenged claims and is reproduced below:

1. A lubricating oil composition comprising:
 - a) an oil of lubricating viscosity having a viscosity index of at least 95;
 - b) at least one calcium detergent;
 - c) at least one oil soluble molybdenum compound;
 - d) at least one organic ashless nitrogen-free friction modifier;
and
 - e) at least one metal dihydrocarbyl dithiophosphate compound, wherein said composition is substantially free of ashless aminic friction modifiers, has a Noack volatility of about 15 wt. % or less, from about 0.05 to 0.6 wt. % calcium from the calcium detergent, molybdenum in an amount of from about 10 ppm to about 350 ppm from the molybdenum compound, and phosphorus from the metal dihydrocarbyl dithiophosphate compound in an amount up to about 0.1 wt. %.

Ex. 1001, 13:47–63.

D. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 1–20 of the '685 patent on the following grounds (Pet. 3–4):

² Noack volatility measures the evaporative loss of lubricant oil at high temperature. Ex. 1001, 2:52–54; Ex. 1002 ¶ 23. A lower Noack volatility is associated with a less volatile oil. Ex. 1002 ¶ 23.

Claim(s) Challenged	35 U.S.C. §	References
1–3, 6–8, 10, 11, 13–15, 18–20	103	Toshikazu ³ , Henderson ⁴
4	103	Toshikazu, Henderson, Schlicht ⁵
9, 16, 17	103	Toshikazu, Henderson, Walker ⁶
1–3, 5–8, 10–15, 18–20	103	Toshikazu, Henderson
4	103	Toshikazu, Henderson, Schlicht
9, 16, 17	103	Toshikazu, Henderson, Walker

II. ANALYSIS

A. Claim Construction

In this *inter partes* review, claim terms are construed according to their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b) (2017);⁷ *Cuozzo Speed*

³ Japanese Patent Application Publication No. JP H5-279686 A, published Oct. 26, 1993 (Ex. 1005). Exhibit 1005 contains the English-language translation of Toshikazu, the Japanese language version of this reference, and a declaration attesting to the accuracy of the translation. Our citations are to the English-language translation.

⁴ H.E. Henderson, et al., *Higher Quality Base Oils for Tomorrow's Engine Oil Performance Categories*, SAE Technical Paper Series 982582, 1–13 (1998) (Ex. 1006).

⁵ US 3,365,396, issued Jan. 23, 1968 (Ex. 1011).

⁶ WO 99/60080, published Nov. 25, 1999 (Ex. 1007).

⁷ A recent amendment to this rule does not apply here, because the Petition was filed before November 13, 2018. *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (codified as amended at 37 C.F.R. § 42.100(b) (2019)).

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