Trials@uspto.gov
571-272-7822

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

JOHNS MANVILLE CORPORATION and JOHNS MANVILLE, INC.,
Petitioner,

v.

KNAUF INSULATION, INC. and KNAUF INSULATION SPRL,
Patent Owner.

Case IPR2018-00805
Patent 9,469,747 B2

Before JAMES T. MOORE, KRISTINA M. KALAN, and ELIZABETH M. ROESEL, *Administrative Patent Judges*.

KALAN, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314(a)

Johns Manville Corporation and Johns Manville, Inc. ("Petitioner") filed a Petition (Paper 2, "Pet.") seeking *inter partes* review of claims 1, 4, 7, 9, 16, 21, 25, 33, 38–40, 44, and 47–49 (the "challenged claims") of U.S. Patent No. 9,469,747 B2 (Ex. 1001, "the '747 patent"). Knauf Insulation, Inc. and Knauf Insulation SPRL ("Patent Owner") filed a Preliminary Response. Paper 8 ("Prelim. Resp.").

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314; 37 C.F.R. § 42.4(a). 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). Applying this standard to the information presented in the Petition, the Preliminary Response, and the supporting evidence, 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.

I. BACKGROUND

A. Related Matters

The parties identify the following civil action as involving the '747 patent: *Knauf Insulation, LLC. v. Johns Manville Corp.*, No. 1:15-cv-00111-WTL-MJD (S.D. Ind., filed Jan. 27, 2015). Pet. 56; Paper 7, 1.

B. Petitioner's Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability (Pet. 17, 30, 35, 50):

Reference(s)	Basis	Claims Challenged
Swift[1]	§ 102	1, 4, 7, 9, 16, 21, 25, 33, and 38–40
Swift	§ 103	1, 4, 7, 9, 16, 21, 25, 33, and 38–40
Swift and Gogek[2]	§ 103	1, 4, 7, 9, 16, 21, 25, 33, 38-40, 44, and 47–49
Swift and Worthington[3]	§ 103	1, 4, 7, 9, 16, 21, 25, 33, and 38–40

Petitioner supports its challenges with a Declaration of Dr. Frederick J. Hirsekorn. Ex. 1006.

C. The '747 Patent (Ex. 1001)

The '747 patent, titled "Mineral Wool Insulation" relates to a method of manufacturing a mineral fiber thermal insulation product in a series of steps. Ex. 1001, at [54], [57]. More particularly, the '747 patent discloses the manufacture of mineral wool insulation products using binders which comprise Maillard reactants. *Id.* at 1:20–22. The '747 patent provides that one "particular binder disclosed is based on a triammonium citratedextrose system derived from mixing dextrose monohydrate, anhydrous citric acid, water and aqueous ammonia." *Id.* at 1:22–25. The '747 patent's binder system "is formaldehyde free" and "may have at least equivalent and indeed

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[1] U.S. Patent App. Pub. No. 2007/0027283 A1, published February 1, 2007 (Ex. 1003, "Swift").
[2] U.S. Patent No. 2,965,504, issued December 20, 1960 (Ex. 1004, "Gogek").
[3] U.S. Patent No. 3,513,001, issued May 19, 1970 (Ex. 1005, "Worthington").

improved properties compared to, for example, products made using the tri-ammonium citrate-dextrose system" of the prior art.[4] *Id.* at 1:26–27, 1:63–67. According to the '747 patent, it is "thus surprising that an acid precursor derivable from an inorganic salt should provide a suitable acid precursor in an otherwise apparently similar binder system." *Id.* at 2:8–11.

The '747 patent provides numerous examples of methods of preparing a binder system. *Id.*, *passim*. The claims of the '747 patent are directed to a method of manufacturing a glass fiber thermal insulation product having a particular content of glass fibers and a particular density. *Id.* at 13:11–16:48.

D. Illustrative Claim

The '747 patent includes 51 claims; claims 1 and 44 are the only independent claims. Claim 1 is illustrative of the challenged claims and is reproduced below:

1. A method of manufacturing a glass fibre thermal insulation product which comprises less than 99% by weight and more than 80% by weight glass fibres and has a density greater than 5 kg/m^{3}and less than 80 kg/m^3, the method comprising sequentially:

forming glass fibres from a molten mineral mixture;

spraying a substantially formaldehyde-free binder solution onto the glass fibres;

collecting the glass fibres to which the binder solution has been applied to form a batt of glass fibres; and

curing the batt comprising the glass fibres and the binder by passing the batt through a curing oven so as to provide a batt of glass fibres held together by a cured, thermoset, substantially formaldehyde-free, nitrogenous polymer-containing binder,

wherein the binder solution consists essentially of (i) a carbohydrate reactant comprising a reducing sugar or a carbohydrate reactant

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[4] The prior art referenced in the '747 patent is WO 2007/014236 (Ex. 1013), which the parties generally agree is substantively identical to Swift (Ex. 1003). Ex. 1001, 1:20; Pet. 16 n.6; Prelim. Resp. 17 n.5.

that yields a reducing sugar in situ under thermal curing conditions and (ii) an acid precursor, in aqueous solution,

wherein the acid precursor provides (i) ionic species selected from the group consisting of sulphates, phosphates, nitrates and combinations thereof and ii) an amine or amine reactant.

Ex. 1001, 13:11–35.

II. DISCUSSION

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are given their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see Cuozzo Speed Tech., LLC v. Lee*, 136 S. Ct. 2131, 2142–46 (2016) (upholding application of the broadest reasonable interpretation standard in an *inter partes* review). Under that standard, we generally give claim terms their ordinary and customary meaning as would be understood by a person of ordinary skill in the art in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Petitioner proposes express constructions for two claim terms—"consists essentially of" and "amine or amine reactant." Pet. 11–17. After considering the parties' arguments and the evidence before us, we determine it is not necessary to construe any claim term expressly to determine whether to institute trial. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) ("only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy").

B. Level of Ordinary Skill in the Art

Petitioner contends that a person of ordinary skill in the art ("POSITA") "would have had a Ph.D. in Chemistry and 3–5 years of industry experience in binder development for insulating or analogous

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