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Paper 7
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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TIETEX INTERNATIONAL, LTD.,
Petitioner,

v.

PRECISION FABRICS GROUP, INC.,
Patent Owner.

Case IPR2015-01671
Patent 8,796,162 B2

Before JAMES T. MOORE, GRACE KARAFFA OBERMANN, and JO-ANNE M. KOKOSKI, *Administrative Patent Judges.*

KOKOSKI, *Administrative Patent Judge.*

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

I. INTRODUCTION

Tietex International, Ltd. ("Petitioner") filed a Petition ("Pet.") to institute an *inter partes* review of claims 1–30 of U.S. Patent No. 8,796,162 B2 ("the '162 patent," Ex. 1001). Paper 1. Precision Fabrics Group, Inc. ("Patent Owner") filed a Preliminary Response ("Prelim. Resp."). Paper 5. We have jurisdiction under 35 U.S.C. § 314.

Upon consideration of the Petition, Preliminary Response, and the evidence of record, we exercise our discretion not to institute, and also determine that Petitioner has not established a reasonable likelihood of prevailing with respect to the unpatentability of claims 1–30 of the '162 patent. Accordingly, we deny the Petition and do not institute an *inter partes* review.

A. Related Proceedings

Petitioner indicates that the '162 patent is asserted in a civil action, to which it is a party, titled *Precision Fabrics Group, Inc. v. Tietex International, Ltd.*, Case No. 1:14-cv-00650 (M.D. N.C.), which has been consolidated with *Precision Fabrics Group, Inc. v. Tietex International, Ltd.*, Case No. 1:13-cv-00645 (M.D. N.C.). Pet. 1. Petitioner also identifies IPR2014-01248 (the "1248 IPR"), also filed by Petitioner and directed to U.S. Patent No. 8,501,639 B2 ("the '639 patent"), as a related proceeding. *Id.* A Final Written Decision (the "1248 Final Decision") issued in the 1248 IPR on January 27, 2016. *Tietex Int'l , Ltd. v. Precision Fabrics Group, Inc.*, Case IPR2014-01248, slip op. at 22 (PTAB Jan. 27, 2016) (Paper 39).

B. The '162 Patent

The '162 patent, titled "Thermally Protective Flame Retardant Fabric," is directed to lightweight fabrics that provide protection from heat,

flame, and electrical arc. Ex. 1001, 1:15–18. According to the '162 patent, the claimed fabric "provides a high degree of thermal protection compared to conventional fabrics" (*id*. at 5:13–14) and is soft and flexible, yet durable enough for long-term use and "inexpensive enough to be disposable and/or suitable for limited use applications" (*id*. at 4:31–38). The fabric comprises "a substrate treated with a combination of a flame retardant agent and an intumescent agent." *Id*. at 3:60–62. The '162 patent lists a number of commercially-available flame retardants that can be used in the claimed fabric. *Id*. at 6:1–22, 6:50–7:23 (Table 2). The '162 patent also describes that a thermal barrier is provided by an intumescent finish that chars and swells upon contact with a flame, and likewise lists a number of commercially available intumescent finishes that can be used in the claimed fabric. *Id*. at 7:24–27, 7:50–64 (Table 3).

The '162 patent describes a number of embodiments of the claimed fabric, including embodiments having basis weights ranging from 3.0 to 8.0 ounces per square yard (*id*. at 5:24–28) and fabric thicknesses ranging from 0.01 to 0.15 inches (*id*. at 5:31–33). The '162 patent also describes an embodiment where "the substrate comprises a nonwoven fabric chosen from needlepunched, spunbonded, thermalbonded, spunlaced, resin bonded, stitch bonded, and meltblown fabrics." *Id*. at 5:35–38.

C. Illustrative Claim

Petitioner challenges claims 1–30 of the '162 patent. Claim 1 is the only independent claim, and reads as follows:

> 1. A fabric consisting of a single layer of a non-woven substrate:
>
> wherein the non-woven substrate comprises cellulosic fibers, polyester fibers and aramid fibers,

wherein the non-woven substrate is treated with an intumescent, flame retardant finish comprising one or more compounds comprising phosphorous and/or nitrogen,

wherein the non-woven substrate has a basis weight ranging from 2.0 to 15.0 ounces per square yard,

wherein the non-woven substrate is a non-woven stitch-bonded substrate, and

wherein the fabric has thickness ranging from 0.01 to 0.15 inches.

Ex. 1001, 12:6–20.

D. The Prior Art

Petitioner relies on the following prior art references:

Reference	**Patent**	**Date**	**Exhibit No.**
Murch	US 3,934,066	January 20, 1976	1007
Radwanski	US 5,912,196	June 15, 1999	1006
Külper	US 6,436,528 B1	August 20, 2002	1004
Rowan	GB 2293572 A	April 3, 1996	1005

E. The Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 1–30 of the ’162 patent on the following grounds:

References	**Basis**	**Claims Challenged**
Külper and Rowan	§ 103(a)	1–30
Radwanski, Rowan, and Murch	§ 103(a)	1–30

II. ANALYSIS

A. Claim Interpretation

We interpret claims of an unexpired patent using the "broadest reasonable construction in light of the specification of the patent in which [the claims] appear[]." 37 C.F.R. § 42.100(b). The Board, however, may not "construe claims during IPR so broadly that its constructions are *unreasonable* under general claim construction principles. . . . '[T]he protocol of giving claims their broadest reasonable interpretation . . . does not include giving claims a legally incorrect interpretation.'" *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015) (citation omitted). "Rather, 'claims should always be read in light of the specification and teaching in the underlying patent'" and "[e]ven under the broadest reasonable interpretation, the Board's construction 'cannot be divorced from the specification and the record evidence.'" *Id.* (citations omitted).

Petitioner states that "[t]he claims of the '162 [patent] use the same terminology as the claims in related US patent 8,501,639, which is the subject of [the] previously instituted [1248 IPR]" and argues "that for purposes of this proceeding, the same definitions should apply." Pet. 7. In the 1248 IPR, we determined that the broadest reasonable interpretation of the term "intumescent" in light of the specification is "a substance that swells and chars upon exposure to heat or flame." *Tietex Int'l, Ltd. v. Precision Fabrics Group, Inc.*, Case IPR2014-01248, slip op. at 5–6 (PTAB Jan. 30, 2015) (Paper 14); *see id.*, slip. op. at 4–5 (PTAB Jan. 27, 2016) (Paper 39). Petitioner and Patent Owner agree that "intumescent" as used in claim 1 of the '162 patent should be interpreted the same way in this proceeding. Pet. 7; Prelim. Resp. 17. Therefore, for purposes of this

Decision, we interpret "intumescent" to mean "a substance that swells and chars upon exposure to heat or flame."

B. Statutory Discretion to Institute

Pursuant to 35 U.S.C. § 314(a), an *inter partes* review may not be instituted "unless . . . the information presented in the petition . . . and any response . . . 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." As we have recognized in other proceedings, "Congress did not mandate that an *inter partes* review must be instituted under certain conditions. Rather by stating that the Director—and by extension, the Board—*may not* institute review *unless* certain conditions are met, Congress made institution discretionary." *Intelligent Bio-Systems, Inc. v. Illumina Cambridge, Ltd.*, Case IPR2013-00324, slip op. at 4 (PTAB Nov. 21, 2013) (Paper 19). Thus, in determining whether to institute an *inter partes* review, the Board "may deny some or all grounds for unpatentability for some or all of the challenged claims." 37 C.F.R. § 42.108(b); *see* 35 U.S.C. § 314(a).

In exercising our discretion, we are guided by the statutory requirement, in promulgating regulations for *inter partes* review, to consider the effect of any regulations on "the efficient administration of the Office [and] the ability of the Office to timely complete proceedings," 35 U.S.C. § 316(b), as well as the requirement to construe our rules to "secure the just, speedy, and inexpensive resolution of every proceeding," 37 C.F.R. § 42.1(b). The Board weighs petitioners' desire to be heard against the interests of patent owners, who seek to avoid harassment via repeated administrative attacks. *See* H.R. Rep. No. 112-98, pt. 1, at 48 (2011) ("[AIA proceedings] are not to be used as tools for harassment or a means to prevent

market entry through repeated litigation and administrative attacks on the validity of a patent. Doing so would frustrate the purpose of the section as providing quick and cost effective alternatives to litigation.").

With that guidance in mind, we turn to the question of whether the Petition in this proceeding warrants *inter partes* review on the ground that claims 1–30 would have been obvious under 35 U.S.C. § 103(a) over the combination of Radwanski, Rowan, and Murch, given that similar issues were the subject of our final decision in the 1248 IPR. In the 1248 IPR, Petitioner challenged claims 1–22 of the '639 patent as being unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Radwanski, Rowan, and Murch. 1248 Final Dec. 2. We determined, based on the record developed during the trial, that Petitioner did not show by a preponderance of the evidence that the challenged claims of the '639 patent are unpatentable. *Id.* at 22.

Petitioner and Patent Owner recognize that the '162 patent and the '639 patent have identical descriptive content. Pet. 5; Prelim. Resp. 3. Petitioner also acknowledges that "[i]ndependent [c]laim 1 of the '162 patent recites a combination that was already substantively considered by the Board in instituting the *inter partes* review of claims 1 and 9" of the '639 patent in the 1248 IPR. Pet. 29. Petitioner argues that

> [i]ndependent claim 1 of the '162 patent differs from claim 1 of [the '639 patent] only in the respect that it adds the feature of aramid fibers (as recited in claim 9 of [the '639 patent]) while expanding a weight range from 3.0–8.0 osy to 2.0–15.0 osy and removing several recited features. Since the weight range recited in the '162 patent fully encompasses the weight range recited in claim 1 of [the '639 patent], the expanded range actually diminishes the likelihood of non-obviousness. Likewise,

> removing limitations also has the effect of rendering the claim more likely to be obvious.

Id. Specifically, claims 1 of the '639 and '162 patents share at least the following elements: (1) a fabric consisting of a single-layer, non-woven substrate; (2) treatment with an intumescent finish comprising one or more phosphorous compounds or nitrogen compounds; (3) a basis weight ranging from 3.0 to 8.0 ounces per square yard; (4) a thickness ranging from 0.01 to 0.15 inches; and (5) a non-woven and stitch-bonded substrate. *Compare* 1248 Final Dec. 4 (reproducing claim 1 of the '639 patent), *with* Ex. 1001, 12:6–20. Other limitations that appear in claim 1 of the '639 patent can be found in the dependent claims of the '162 patent, such as a contact thermal protective performance value of at least 4.5 (claim 6), and applying the intumescent finish to the non-woven substrate in an amount ranging from 15 to 130 percent solids (claim 20). *See* Ex. 1001, 12:30–31, 12:64–67.

We approach our discretion to deny a petition on a case-by-case basis. There are sufficient reasons under the specific facts of this case to exercise our discretion to deny institution on Petitioner's asserted ground that claims 1–30 of the '162 patent would have been obvious over the combination of Radwanski, Rowan, and Murch. Notably, in this proceeding, the claims of the '162 patent are so similar in scope and content to those in the '639 patent that Petitioner is relying on the same arguments that we found to be unpersuasive in the 1248 Final Decision. *See* Pet. 29; 1248 Final Dec. 22. We do not see how the efficient administration of the Office, or the just, speedy, and inexpensive resolution of every proceeding, would be secured by instituting an *inter partes* review in this proceeding when the same prior art references and arguments are asserted against substantially the same claim limitations as in the 1248 IPR.

Prejudice to the parties also weighs against exercising our discretion to institute an *inter partes* review in this proceeding. In particular, we are not persuaded that Patent Owner should be forced to expend resources defending the claims in the '162 patent when it has already successfully defended substantially similar claims in the '639 patent against essentially the same arguments raised with respect to the same prior art applied in the 1248 IPR. Based upon our review of the record, we do not perceive that Petitioner has offered any argument or evidence that significantly differs from that offered in the petition in the 1248 IPR that is likely to lead to a different result and, thus, would justify instituting an *inter partes* review in this proceeding.

We determine, under the circumstances, that instituting an *inter partes* review on Petitioner's asserted ground that claims 1–30 of the '162 patent would have been obvious over the combination of Radwanski, Rowan, and Murch would not be an efficient use of administrative resources. *Cf. Heckler v. Chaney*, 407 U.S. 821, 931 (1985) (acknowledging an agency decision not to undertake permitted action "often involves a complicated balancing of a number of factors which are peculiarly within its expertise"). Therefore, we exercise our discretion under 35 U.S.C. § 314(a) and 37 C.F.R. § 42.108(b) and decline to institute an *inter partes* review of claims 1–30 of the '162 patent based on the combination of Radwanski, Rowan, and Murch.

C. Obviousness over Külper and Rowan

Petitioner contends that the subject matter of claims 1–30 would have been obvious under 35 U.S.C. § 103(a) over the combination of Külper and Rowan. Pet. 8–29. Petitioner provides claim charts and relies on the

Declarations of Brian Callaway (Ex. 1002) and Dr. A. Richard Horrocks (Ex. 1003) in support of its contentions. *Id.*

1. Overview of Külper

Külper is directed to an adhesive tape with a tapelike backing comprising a nonwoven material that is coated on at least one side with an adhesive. Ex. 1004, 1:4–8. Külper states that stitchbonded webs are "suitable as an intermediate for forming an adhesive tape of the invention." *Id.* at 3:13–14. According to Külper, the stitchbonded web can be comprised of polyester fibers, polypropylene fibers, viscose fibers, or cotton fibers. *Id.* at 3:22–24.

Külper describes a preferred embodiment having "a web weight of from 50 to 500 g/m^2, in particular from 80 to 200 g/m^2" and "a web thickness of from 100 to 3000 µm, in particular from 200 to 1000 µm." *Id.* at 5:31–36. Külper states that the web backing can be "flameproofed by the addition of flame retardants, preferably, ammonium polyphosphate and/or the selection of suitable fibres of low or zero flammability." *Id.* at 5:49–52. Külper also states that "it is possible to introduce, for example, solid flame retardants into binder dispersions, with the binder providing not only for adhesive bonding but also binding the flame retardant permanently in the web." *Id.* at 5:53–56.

2. Overview of Rowan

Rowan is directed to a fire and heat-resistant fabric that includes a laminate of first and second sheets of material connected together, where each sheet comprises a mixture of an organic intumescent filler and an adhesive. Ex. 1005, Abstract. The organic intumescent filler and adhesive mixture is applied to a first side of each sheet of material in liquid form and

partially penetrates into the sheet. *Id*. at 2. Upon drying, each sheet of material will have "an inner layer formed of just the mixture, an intermediate layer formed of that part of the sheet of material that has been penetrated by the mixture, and an outer layer formed of that part of the sheet of material that has not been penetrated by the mixture." *Id*. In the Rowan fabric, the first and second sheets are positioned such that the inner layers are touching, and are at least partially connected together by the adhesive in the mixture. *Id*.

Rowan states that the first and second sheets of material preferably are non-woven fabric structures. *Id*. at 5. Rowan states that "[p]referably, the first and the second sheets of material contain cellulose-based organic fibres, together with a phosphorous-based flame retardant" and an organic intumescent filler comprising an ammonium phosphate/melamine/pentaerythritol system. *Id*. at 8.

3. Discussion

Petitioner contends that the combination of Külper and Rowan discloses all of the elements of claim 1. Pet. 8–11, 22–23. For example, Petitioner contends that Külper teaches "a single layer of a non-woven, stitch bonded substrate containing cellulosic fibers and/or polyester fibers," having a basis weight and thickness within the ranges recited in claim 1, and that Rowan teaches a non-woven, stitch-bonded substrate comprising cellulosic and aramid fibers that is "treated with an intumescent flame retardant finish comprising phosphorous compounds." *Id.* at 9–10.

Patent Owner argues that Külper and Rowan do not disclose all of the limitations of claim 1. Prelim. Resp. 19–26. Patent Owner argues that Külper "is not directed to a single-layer, stitchbonded, non-woven fabric"

because "the adhesive tape of Külper is not only 'mechanically preconsolidated,' but is 'additionally consolidated adhesively using a chemical binder and is coated on at least one side with an adhesive.'" *Id.* at 21 (citing Ex. 1004, 1:6–8). Patent Owner also argues that Rowan teaches away from the claimed invention because it "shows that a single-layer, non-woven fabric would not function with an intumescent finish because at least a second layer of non-woven fabric is needed to lock the intumescent composition into place." *Id.* at 24. According to Patent Owner, "[a] person of ordinary skill in the art reading the teachings of Külper and Rowan in combination would have been led to modify Külper to include ***multiple sheets*** of fabric that are ***laminated together*** with an ***intumescent filler*** sandwiched between the sheets to create a fabric." *Id.* at 25.

A showing of obviousness must be supported by an articulated reasoning with rational underpinning to support a motivation to combine the prior art teachings. *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 414 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.")). An analysis regarding an apparent reason to combine known elements "should be made explicit." *Id.*

Petitioner asserts that a person having ordinary skill in the art would have combined the teachings of Külper and Rowan "because both disclose non-woven, stitch-bonded, cellulose-containing webs that may include fibers of low or zero flammability and which are coated with phosphorous-containing flame retardants for heat and flame resistance." Pet. 10–11

(citing Ex. 1002 ¶ 82; Ex. 1003 ¶ 63). That statement of similarity, however, does not constitute an articulated reasoning with rational underpinnings as to why one of ordinary skill in the art would combine elements of Külper with some elements of Rowan, and why one of ordinary skill in the art would modify the teachings of Külper in view of Rowan's teachings to arrive at the claimed invention.

Petitioner also asserts that it would have been obvious to a person having ordinary skill in the art to modify the non-woven substrate used in Külper's adhesive tape to include aramid fibers in combination with cellulosic fibers, and then use an intumescent finish on the resulting stitchbonded fabric for heat and fire resistance, as taught by Rowan. Pet. 11. Petitioner, however, does not provide sufficient explanation as to why a person having ordinary skill in the art would look to Rowan, which is directed to a fire and heat-resistant fabric made by connecting together two sheets of laminate, each of which comprises a mixture of an intumescent filler and an adhesive (Ex. 1005, Abs.), for guidance in improving heat and fire resistance of an adhesive tape such as the one described in Külper. Petitioner does not direct us to, nor do we discern, statements in Külper with respect to the degree of heat and fire protection provided by the described adhesive tape.

Petitioner also does not explain why a person having ordinary skill in the art would not use the two-layer laminate fabric described by Rowan to improve the Külper adhesive tape's heat and fire resistance. Rowan explains that its two-layer laminate "advantageously enables the organic intumescent filler to be locked into the fabric when the sheets of material are connected together with the inner layers touching each other" and "helps to ensure that

the organic intumescent filler does not fall out of the fabric when the fabric is used and it starts to wear and become torn." Ex. 1005, 2–3. The Petition does not include sufficient explanation as to why a person having ordinary skill in the art, when looking to improve the heat and fire resistance of the Külper adhesive tape, would look to Rowan's use of aramid fibers and an intumescent finish, when Rowan emphasizes the importance of using two sheets of laminate to lock an intumescent filler in the fabric.

Instead, Petitioner appears to contend that each element of the '162 patent was known in the prior art. That is insufficient to establish that the '162 patent would have been obvious under a theory of obviousness based on the combination of Külper and Rowan. *See Cheese Sys. Inc. v. Tetra Pak Cheese and Powder Sys., Inc.*, 725 F.2d 1341, 1352 (Fed. Cir. 2013) ("Obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention." (internal quotation marks omitted)). As explained in *KSR*, "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR*, 550 U.S. at 418. Consequently, we are not persuaded that the Petition establishes why a person having ordinary skill in the art would attempt to improve Külper by looking at Rowan.

For these reasons, Petitioner has not established a reasonable likelihood that it would prevail on the ground that claim 1, and claims 2–30 that depend, directly or indirectly, therefrom, would have been obvious under 35 U.S.C. § 103(a) over the combination of Külper and Rowan.

III. CONCLUSION

For the foregoing reasons, we conclude that, on the present record, Petitioner has not established a reasonable likelihood that it would prevail on its challenge that claims 1–30 of the ’162 patent are unpatentable.

IV. ORDER

In consideration of the foregoing, it is hereby

ORDERED that the Petition is *denied*.

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