

**United States Court of Appeals  
for the Federal Circuit**

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**OWENS CORNING,**  
*Appellant*

v.

**FAST FELT CORPORATION,**  
*Appellee*

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2016-2613

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Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2015-00650.

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Decided: October 11, 2017

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CONSTANTINE L. TRELA, JR., Sidley Austin LLP, Chicago, IL, argued for appellant. Also represented by THOMAS D. REIN, STEVEN J. HOROWITZ, STEPHANIE P. KOH, BRYAN C. MULDER; PETER S. CHOI, ANNA MAYERGOYZ WEINBERG, Washington, DC.

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Before NEWMAN, DYK, and TARANTO, *Circuit Judges*.

TARANTO, *Circuit Judge*.

Fast Felt Corporation owns U.S. Patent No. 8,137,757, which describes and claims methods for printing nail tabs or reinforcement strips on roofing or building cover material. Fast Felt sued Owens Corning for infringement, and Owens Corning then filed a petition with the Patent and Trademark Office (PTO) seeking an *inter partes* review of claims 1, 2, 4, 6, and 7 under 35 U.S.C. §§ 311–19. The Patent Trial and Appeal Board, acting as the delegate of the PTO’s Director under 37 C.F.R. § 42.4(a), instituted a review of all of the challenged claims on grounds of obviousness. Institution of Inter Partes Review at 26, *Owens Corning v. Fast Felt Corp.*, No. IPR2015-00650 (P.T.A.B. Aug. 13, 2015), Paper No. 9 (*Institution Decision*). After conducting the review, the Board concluded that Owens Corning had failed to show obviousness of any of the challenged claims. Final Written Decision, *Owens Corning v. Fast Felt Corp.*, No. IPR2015-00650, 2016 WL 8999740, at \*23 (P.T.A.B. Aug. 11, 2016) (*Final Decision*).

Owens Corning appeals from the Board’s decision. It contends that, once the key claim term is given its broadest reasonable interpretation, the record conclusively establishes obviousness. We agree, and we reverse the Board’s decision.

I

A

The ’757 patent addresses applying polymer “nail tabs” on “roofing and building cover material.” ’757 patent, abstract; *id.*, col. 1, lines 29–34 (“The invention relates generally to roofing materials or other building materials normally employed as cover materials over a wood roof deck or stud wall and more specifically to such cover materials and methods for incorporating therein a

plurality of integrally formed nail tabs or a continuous reinforcing strip.”). The specification explains that nail tabs have been used to reinforce specific locations on roofing or building cover material at which nails will be driven through the material to attach it to a wood roof deck or a building stud wall. *See id.*, col. 1, lines 29–34. Such reinforcement helps prevent the nails from tearing through the cover material. *See id.*, col. 2, lines 20–26. Commonly, the specification observes, separate washers or tabs are applied with every nail to provide reinforcement, but that practice is expensive, inefficient, and dangerous. *Id.*, col. 2, lines 44–63.

The ’757 patent proposes an asserted improvement: use of an “automated” process to “permanently and reliably” affix or bond “tab material that quickly solidifies and adheres or bonds to the surface.” *Id.*, col. 5, line 63–col. 6, line 2. The surface to which the tab material is affixed or bonded can be “either dry felt, saturated felt, a fiberglass, polyester or other inorganic substrate roofing material whether or not coated with asphalt or an asphalt mix, or roll roofing material or shingles.” *Id.*, col. 5, lines 64–67. The automated process can be “gravure, rotogravure or gravure-like transfer printing (the ‘gravure process’) or offset printing.” *Id.*, col. 3, lines 24–26.<sup>1</sup>

Claim 1 is one of two independent claims. It reads:

A method of making a roofing or building cover material, which comprises treating an extended length of substrate, comprising the steps of:

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<sup>1</sup> Gravure printing transfers a print material from an engraved cylinder directly onto a substrate. Appellant’s Br. 7. Offset-gravure printing uses a second roller to pick up the print material from the engraved cylinder and transfer the print material onto the substrate. *Id.* at 8.

depositing tab material onto the surface of said roofing or building cover material at a plurality of nail tabs from a lamination roll, said tab material bonding to the surface of said roofing or building cover material by pressure between said roll and said surface.

*Id.*, col. 13, lines 13–20. All of the challenged claims contain the claim term “roofing or building cover material.” *Id.*, col. 13, line 13–col. 14, line 17. Claim 7, the second independent claim, is similar to claim 1 but does not require a lamination roll. *Id.*, col. 14, lines 11–17. On appeal, the parties treat independent claims 1 and 7 as substantively equivalent. Several dependent claims add narrowing limitations, but Fast Felt does not argue them separately here.

## B

The Board instituted review on three grounds, all under 35 U.S.C. § 103 (2006). *Institution Decision* at 26.<sup>2</sup> Owens Corning does not press one of those grounds on appeal, so we discuss only two of the grounds. U.S. Patent No. 6,451,409 (Lassiter) is the key piece of prior art. It specifically teaches a process of using nozzles to deposit polymer nail tabs on roofing and building cover materials to solve some of the same industry problems as are identified in the ’757 patent. Lassiter, abstract, col. 1, lines 10–15, col. 2, lines 3–18.

The first ground of asserted unpatentability, applicable to claims 1, 2, 4, 6, and 7, is obviousness over a combination of Lassiter and U.S. Patent No. 5,101,759 (Hefe).

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<sup>2</sup> The ’757 patent, which issued from a 2010 application, is governed by the version of § 103 that was in effect before the provision’s amendment by the Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 3(n)(1), 125 Stat. 284, 293 (2011).

*Institution Decision* at 26. Hefele discloses an offset-gravure printing process using a pressure roller to form “grid-like coatings” on a variety of “web-like flexible planar” materials. Hefele, abstract. The other asserted ground of unpatentability that is presented to us, applicable to claims 1, 2, 4, 6, and 7, is obviousness over a combination of Lassiter and U.S. Patent No. 6,875,710 (Eaton). *Institution Decision* at 26. Eaton discloses a process of using a transfer roll to apply “discrete polymeric regions” to reinforce various substrates and a process for laminating two substrates together. Eaton, col. 2, lines 16–29, col. 3, lines 6–22.

In its Final Written Decision, the Board found that, contrary to Fast Felt’s contentions, all of the elements of the independent claims are disclosed in Lassiter when combined with either Hefele or Eaton. *See Final Decision*, 2016 WL 8999740, at \*12–13, \*20–21. Fast Felt has not meaningfully argued to this court that those findings are unsupported by substantial evidence.<sup>3</sup> The Board further found that Owens Corning had failed to show that a skilled artisan would have combined Lassiter with Hefele or Eaton. *Id.* at \*13–15, \*21–22. On that basis, the Board rejected Owens Corning’s challenges to claim 1. *Id.* Finding no material difference between claim 1 and either claim 7 or the dependent claims 2, 4, and 6, the Board also rejected the challenges to those claims for the same reasons. *Id.* at \*16, \*22.

Owens Corning appeals the Board’s decision. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

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<sup>3</sup> The two-sentence footnote in Fast Felt’s brief reasserting its position, Appellee’s Br. 5 n.2, does not suffice to preserve a challenge. *See SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1320 (Fed. Cir. 2006). In any event, it does not persuasively show error by the Board in this respect.

## II

## A

Owens Corning first argues that the Board, when evaluating obviousness in light of the prior art, at least implicitly adopted an erroneous claim construction. Specifically, it contends that the Board effectively treated the “roofing or building cover material” as limited to material that either has been or would be coated or saturated with asphalt or asphalt mix. And it contends that such a construction is legally incorrect under the broadest-reasonable-interpretation standard applicable in the IPR. We agree as to both parts of this contention.

In the claim-construction portion of its opinion, the Board construed the claim term “roofing or building cover material” to mean “base substrate materials such as dry felt, fiberglass mat, and/or polyester mat, before coating or saturation with asphalt or asphalt mix, and asphalt coated or saturated substrates such as tar paper and saturated felt.” *Final Decision*, 2016 WL 8999740, at \*4. It later noted, correctly, that this construction “does not require an asphalt-coated substrate.” *Id.* at \*14. But when evaluating Owens Corning’s arguments regarding motivation to combine and reasonable expectation of success, the Board made clear its understanding of its construction, and hence of the claims, as requiring materials that would eventually be coated with asphalt even if they had not already been coated before printing. *Id.* at \*13–16, \*21–22.

That is evident in the Board’s determination, based on a statement in Lassiter and certain expert testimony, that Lassiter would discourage a skilled artisan from using “high temperatures and roller pressure” to apply nail tabs to a base substrate. *Id.* at \*14, \*21. The cited statement in Lassiter refers only to problems during an asphalt coating process after nail tabs have been applied. Lassiter, col. 2, lines 32–40. And both of Fast Felt’s experts, Dr.

Bohan and Mr. Todd, testified that they considered only “heavily saturated asphalt” materials in their analyses. Bohan Dep. J.A. 1436–37, Todd Dep. J.A. 1542–43.

The same understanding of the claims is evident in the Board’s rejection of Owens Corning’s argument that the gravure-based methods in Hefele and Eaton were interchangeable with Lassiter’s nozzle-based method. The Board reasoned that Owens Corning had not accounted for the differences in materials. *Final Decision*, 2016 WL 8999740, at \*15, \*22. In doing so, the Board relied on the testimony of Fast Felt’s expert, Mr. Todd, that Hefele and Eaton do not “address utilizing anything even remotely resembling a heavily asphalt saturated substrate,” and “[w]ithout this link there does not seem to be any reason someone manufacturing a roofing product would ever look to a common printing or coating process.” *Id.* The Board simply did not address roofing or building cover materials that would never be coated in asphalt.

The exclusion of such materials from the scope of the claims is mistaken. In an *inter partes* review proceeding, the Board is to give a claim “its broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b). “We review underlying factual determinations concerning extrinsic evidence for substantial evidence and the ultimate construction of the claim de novo.” *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1280 (Fed. Cir. 2015), *aff’d sub nom. Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131 (2016). It is not reasonable to read the claims as limited to materials that either have been or are to be coated or saturated with asphalt or asphalt mix.

It is true that the preferred embodiments in the ’757 patent focus on roofing materials that are or will be coated or saturated with asphalt or asphalt mix. *See, e.g.*, ’757 patent, col. 7, lines 27–54. But that is not enough to narrow the claim scope in the IPR. The claims are plainly

not so limited. Indeed, they are not even limited to “roofing materials,” as they all expressly include “building cover material” as well as roofing material. *Id.*, col. 13, line 13–col. 14, line 25. Moreover, even the specification, when not discussing preferred embodiments, is not limited to roofing materials: it speaks of “roofing materials or other building materials normally employed as cover materials over a wood roof deck or stud wall.” *Id.*, col. 1, lines 29–31. And Fast Felt has not disputed, or pointed to any evidence disputing, that some building cover materials (like the common Tyvek wrap referred to in the Board oral argument) is commonly installed without ever being coated or saturated with asphalt or asphalt mix.

In these circumstances, the broadest reasonable construction of “roofing or building cover material” would include materials that neither have been nor are to be coated or saturated with asphalt or asphalt mix. We conclude that the Board erred in effectively construing the claims to exclude such materials.

## B

In this case, it is not necessary or appropriate to remand for the Board to reassess the evidence in light of the correct claim construction. On the evidence and arguments presented to the Board, there is only one possible evidence-supported finding: the Board’s rejection of Owens Corning’s challenge, when the correct construction is employed, is not supported by substantial evidence. *See, e.g., Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1077, 1082 (Fed. Cir. 2015) (reversing rejection of IPR challenge). Moreover, in this court, after Owens Corning sought outright reversal on this ground in its opening brief, Fast Felt in its responsive brief did not ask for a remand if this court adopted a claim interpretation not limited by any requirement of asphalt coating or saturation. In particular, Fast Felt did not respond that this was a late-arising interpretation and it had lacked an



opportunity in the Board proceedings to introduce evidence relevant under this interpretation. Nor do we see a basis for such an argument. Owens Corning's petition did not restrict the claim scope based on coating or saturation; the Institution Decision did not adopt such a limiting construction, *Institution Decision* at 5; and when Fast Felt relied on a limitation based on asphalt coating or saturation in its Patent Owner's Response, Owens Corning clearly asserted in its Reply that "Asphalt Saturated Substrates Cannot Be Used To Distinguish The Prior Art Because No Such Limitation Is Recited In The Claims," J.A. 339. In these circumstances, where only one answer is supported by substantial evidence and there is neither a request nor an apparent reason to grant a second record-making opportunity, reversal is warranted.

Whether a claimed invention would have been obvious is a question of law (reviewed de novo), based on factual determinations (reviewed for substantial-evidence support) regarding the scope and content of the prior art, differences between the prior art and the claims at issue, the level of ordinary skill in the pertinent art, the motivations to modify or combine prior art, and any objective indicia of non-obviousness. *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013). Here, as explained above, it is settled that the prior-art combinations at issue disclose all of the elements of the claims. The only question is whether a relevant skilled artisan would have been led to make the combinations with a reasonable expectation of success. See *L.A. Biomedical Research Inst. at Harbor-UCLA Med. Ctr. v. Eli Lilly & Co.*, 849 F.3d 1049, 1064 (Fed. Cir. 2017). As relevant here, that inquiry is to be conducted in light of the Supreme Court's observation that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007).

Lassiter itself, by its terms, suggests that a person of ordinary skill in the art would be motivated to print nail tabs on building cover materials that are not and will not be asphalt coated. Lassiter teaches its process for such building cover materials, including “covering sheets” and “styrofoam board sheathing” that can be attached to stud walls. Lassiter, col. 7, line 25–col. 8, line 2. Before the Board, at the oral argument, Owens Corning discussed covering sheets such as plastic “house wrap,” and a Board member specifically asked about “Tyvek . . . or some other wrap or lighter material.” J.A. 416, 427. Fast Felt’s expert, Mr. Todd, also mentioned “synthetic underlayment” materials in his declaration. *Final Decision*, 2016 WL 8999740, at \*10 (quoting Todd Decl. ¶ 8, J.A. 1656). There is no evidence that any of these materials must be coated with asphalt.

As to expert testimony, the only such testimony about printing on materials not coated or to be coated (or saturated) with asphalt (or asphalt mix) is that of Dr. Levenson, Owens Corning’s expert. The Board found that the knowledge of an ordinary skilled artisan would include “knowledge of . . . gravure/offset printing,” *Final Decision*, 2016 WL 8999740, at \*9, and Dr. Levenson attested to that knowledge. He explained, citing Hefele and a textbook, that a gravure process would allow for polymer nail tabs to be printed on a wider range of substrates (*e.g.*, “synthetic” and “polyethylene” (plastic) materials, Levenson Dep. J.A. 1818) and would provide economic advantages over nozzle-based methods. *Owens Corning*, No. IPR2015-00650, Ex. 1014, Levenson Decl. ¶¶ 40–41. Owens Corning provided background materials that clearly support Dr. Levenson’s testimony. J.A. 803, 805–08. Dr. Levenson further testified that the prior-art combinations involved “a simple substitution of one well known polymer deposition technique [nozzle-based printing] for another [gravure-based printing] to obtain predictable results.” Ex. 1014, Levenson Decl. ¶¶ 43–44.

Fast Felt had no meaningful evidence in response to the foregoing that was independent of its too-narrow view of what materials are covered by the patent at issue. The testimony of its experts, Mr. Todd and Dr. Bohan, whether as to motivation to combine or teaching away or expectation of success, was entirely based on an analysis of asphalt saturated substrates. J.A. 1694–96, 1698, 1704–05, 1738, 1757–59. Fast Felt’s evidence did not answer Owens Corning’s evidence as to other, building cover materials. And the Board’s statement that Dr. Levenson “does not provide any objective support for his opinion” about motivation to combine and expectation of success, *Final Decision*, 2016 WL 8999740, at \*15, \*22, not only is dependent on the improperly narrow focus of Fast Felt’s experts, but plainly contradicts the record, given the documentary supporting materials submitted, when the focus is widened, as it must be, to include substrates not (yet or to be) asphalt coated or saturated.

Based on the record before us, there is only one permissible factual finding—a skilled artisan would be motivated to combine the prior-art references to print nail tabs on building cover materials that are not (already or to be) asphalt coated or saturated. Lassiter’s nozzle-based printing technique and Hefele’s and Eaton’s gravure-based printing processes were known substitutes, with success predictable as to materials covered by the claims. There is no substantial evidence to the contrary. “[W]hen a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious.” *KSR*, 550 U.S. at 417 (internal quotation marks omitted).

That conclusion requires reversal as to claim 1. And Fast Felt has not made any argument to us for a different result as to independent claim 7 or as to dependent claims 2, 4, and 6.

**III**

For the foregoing reasons, we hold that claims 1, 2, 4, 6, and 7 of the '757 patent are unpatentable for obviousness. The Board's decision is reversed.

**REVERSED**