

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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TYCO FIRE PRODUCTS LP,  
Petitioner,

v.

VICTAULIC COMPANY,  
Patent Owner.

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IPR2016-00278  
Patent 8,646,165 B2

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Before HYUN J. JUNG, BARRY L. GROSSMAN and  
JEREMY M. PLENZLER, *Administrative Patent Judges*.

GROSSMAN, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
35 U.S.C. § 318(a); 37 C.F.R. § 42.73

## I. INTRODUCTION

### A. Background

Tyco Fire Products LP (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–16 of U.S. Patent No. 8,646,165 B2 (Ex. 1001, “the ’165 patent”) pursuant to 35 U.S.C. §§ 311–319. Paper 2 (“Pet.”). Victaulic Company (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 7 (“Prelim. Resp.”). Claims 1–16 were challenged under seven separate and distinct grounds. Pet. 14. Claims 1 and 9 are independent claims. We instituted review on only one of the seven grounds – whether claims 2 and 10 would have been obvious under 35 U.S.C. § 103<sup>1</sup> based on Vieregge<sup>2</sup> and Lane<sup>3</sup>. Paper 9 (“Dec. Inst.”).

Petitioner requested rehearing of our Decision to Institute an *inter partes* review (Paper 11), which we denied (Paper 13, Dec. Reh’g.).

Patent Owner filed a Response to the Petition (Paper 14, “PO Resp.”), and Petitioner filed a Reply (Paper 22, “Pet. Reply”).

Petitioner submitted 26 exhibits (Ex. 1001–1017; Ex. 1113–1121). Patent Owner also submitted 26 exhibits (Ex. 2001–2026).

A hearing was held March 13, 2017. Paper 38 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6. We enter this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

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<sup>1</sup> The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 296–07 (2011), took effect on September 16, 2012. Because the application for the patent at issue in this proceeding has an effective filing date before that date, we refer to the pre-AIA versions of the statute.

<sup>2</sup> German Patent Application No. DE 10006029 A1 (published August 30, 2001) (Ex. 1002; translation at Ex. 1003).

<sup>3</sup> UK Patent Application No. GB 2218768 A (published November 22, 1989) (Ex. 1004).

Petitioner has the burden of proving a proposition of unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e). As described below, we determine that Petitioner has met its burden to establish that claims 2 and 10 are unpatentable.<sup>4</sup>

### *B. Related Proceedings*

Petitioner and Patent Owner state the '165 patent also is the subject of a petition for *inter partes* review in IPR2016-00279. Pet. 2; Paper 5, 1. Petitioner also states that the patent in petitions for *inter partes* reviews filed in IPR2016-00276 and IPR2016-00277 is related to the '165 patent. Pet. 3. In both IPR2016-00276 (Paper 9; Paper 12) and IPR2016-00277 (Paper 9; Paper 14), the Board denied institution of an *inter partes* review and denied requests for rehearing in each case.

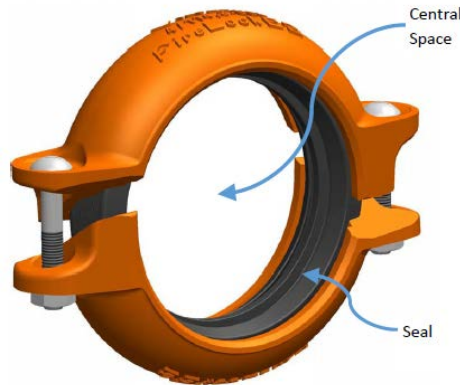
### *C. The '165 Patent*

The '165 patent discloses methods of connecting together sections of pipes, such as, for example, water distribution pipes in a fire protection system. The connection is made using pre-assembled mechanical pipe couplings. The couplings surround end portions of aligned pipe elements. The couplings are deformable to conform to the outer surface of the pipe elements. According to the disclosure, a pre-assembled, deformable coupling facilitates assembly of the pipe joint. Ex. 1001, 1:16–20.

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<sup>4</sup> In our Decision Denying Petitioner's Request for Rehearing, we pointed out that Petitioner did *not* challenge independent claims 1 and 9 based on Vieregge and Lane and discussed the reason why we did not exercise our discretion to add independent claims 1 and 9 to the instituted ground. Dec. Reh'g. 7–12. We also explained the implications for claims 1 and 9 of a decision addressing claims 2 and 10. *Id.*

Patent Owner provides the following illustration of an asserted commercial embodiment of the claimed invention. Ex. 2005, 23<sup>5</sup>.



Perspective drawing of Patent Owner's Style 009 coupling. The ends of two pipes to be joined are inserted into the central space from opposite sides of the coupling, and the bolts are tightened around the joint or interface of the two pipes. The following illustration from Patent Owner shows the Style 009 coupling assembled onto pipes. *Id.* at 29. The interface of the pipe ends is secured by the coupling and seal.



Perspective illustration of Patent Owner's Style 009 Coupling installed and connecting two pipes.

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<sup>5</sup> Exhibit 2005 is a declaration from Lawrence W. Thau, Jr. The declaration has several attachments, which are identified as Exhibits A–L, with each of the attachments having multiple pages. This creates the somewhat confusing citation of, for example, “Exhibit 2005, Ex. B, 1” when citing to page 1 of Exhibit B, which is part of Exhibit 2005. Exhibit 2005 also is paginated (pages 1–117). See 37 C.F.R. § 42.63(d)(2)(ii). We cite to the page numbers of Exhibit 2005.



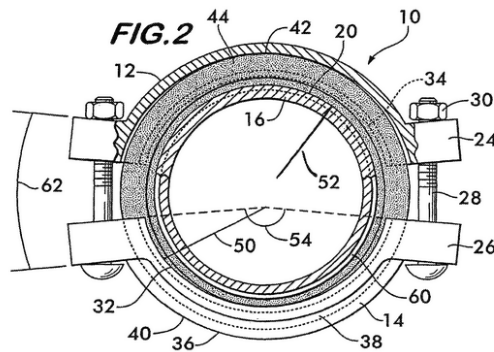


Figure 1A is a longitudinal cross-sectional view illustrating pipe elements attached in end-to-end relation using a circumferential coupling. *Id.* at 3:8–10. Figure 2 is a partial cross-sectional view of the pipe coupling shown in Figure 1. *Id.* at 3:11–12.

As shown in Figures 1A and 2, reproduced above, pipe coupling 10 is formed from coupling segments 12 and 14. Segments 12 and 14 are interconnectable with one another to straddle end portions 16a and 18a of pipe elements 16 and 18 to thereby secure the pipe elements together in end-to-end relationship. The end portions of the pipe elements have outer surfaces 20 and 22 of substantially cylindrical profile.

Lugs 24 and 26 (shown in Figure 2) connect coupling segments 12 and 14. *Id.* at 3:54–56. Lugs 24 and 26 are adapted to receive fasteners, such as bolts 28 and nuts 30, which adjustably connect the coupling segments to one another. *Id.* at 3:58–62.

Each coupling segment 12 and 14 has a pair of spaced, arcuate surfaces 32 and 34. *Id.* at 3:54–56. Surfaces 32 and 34 extend from housing 36 having sidewalls 38 joined to back wall 40, forming channel 42 that receives seal 44. *Id.* at 3:64–4:3. The housing, channel, and the seal are *not* recited in claims 2 and 10, which are the only claims involved in this proceeding.

The disclosed method involves inserting pipe elements 16 and 18 into coupling 10, and tightening the fasteners (e.g., bolts 28 and nuts 30) to thereby draw arcuate surfaces 32 and 34 on segment 12 toward those on segment 14. *Id.* at 4:44–48. This results in bringing segments 12, 14 into contact with the outer surface of pipe elements 16 and 18 and causes segments 12, 14 to deform such that surfaces 32 and 34 substantially conform to the curvature of pipe elements 16 and 18. *Id.* at 4:48–53. This step is referred to as the “deform to conform” step.

#### *D. Illustrative Claim*

Dependent claims 2 and 10 are the only claims at issue in this proceeding. Claims 1 and 9 are independent claims. Claim 2 depends from claim 1; claim 10 depends from claim 9.

Independent claim 1 is substantively identical to claim 9. The only distinction between claim 1 and claim 9 is that the first clause from the body of claim 1 (“using a coupling having a plurality of coupling segments . . .”) is included in the preamble of claim 9. This is a distinction without a substantive difference. Patent Owner agrees. Tr. 34 (“We would agree, Your Honor, it is a matter of semantics, not substance. So any arguments that apply to 1 apply to 9, and vice versa.”).

Dependent claim 2 and dependent claim 10 are substantively identical. Again, Patent Owner agrees. *Id.* at 35:1–6. Thus, our analysis of claim 2 applies equally to claim 10.

Claims 1 and 2 are reproduced below.

1. A method of securing facing end portions of pipe elements together in end-to-end relationship, wherein said end portions of said pipe elements have an outer surface of substantially cylindrical profile, said method comprising:

using a coupling having a plurality of coupling segments attached to one another at both ends surrounding a central space, said coupling segments having arcuate surfaces adapted to interface with the outer surfaces of said pipe elements;

while said segments are attached to one another at said both ends, supporting said segments in spaced relation sufficient to permit insertion of said end portions of said pipe elements into said central space;

while said segments are attached to one another at said both ends and supported in spaced relation, axially inserting said end portions of said pipe elements into said central space; and

drawing said coupling segments towards one another so as to engage said arcuate surfaces with said outer surfaces of said pipe elements.

2. The method according to claim 1, further comprising deforming said coupling segments so as to conform the curvature of said arcuate surfaces of said coupling segments to said outer surfaces of said pipe elements.

## II. ANALYSIS

### A. Claim Construction

We interpret claims 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); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016). Under that standard, and absent any special definitions, we give claim terms their ordinary and customary meaning, as would be understood by one of ordinary skill in the art at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definitions for claim terms must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). Only terms that are in controversy need to be construed, and then

only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

1. “Coupling Segments”

Petitioner proposes a construction for two clauses in claim 1: “coupling having a plurality of coupling segments” (Pet. 11); and “coupling segments attached to one another at both ends” (*id.* at 12). Petitioner proposes that the first clause means “a coupling that comprises two coupling segments” (*id.* at 11), and the second clause means “each end of the first segment is connected to each respective end of the second segment, and the coupling has no more than two segments” (*id.* at 12).

In its Reply, Petitioner focuses on the phrase “at both ends” in claim 1, which was added by amendment to replace the phrase “end-to-end.” Pet. Reply 3 (citing Ex. 1011, 12). Petitioner emphasizes in its Reply that the “restriction requirement” during prosecution, “combined with Victaulic’s claim amendments” and other evidence presented in the original Petition establish that the challenged claims “require a coupling with only two segments.” Pet. Reply 4 (citing Pet. 8–12).

At the hearing, however, Petitioner acknowledged that “[i]t doesn’t matter [to patentability] whether there is two or more than two [coupling segments] . . . So in that sense it is not [outcome] determinative.” Tr. 10:12–15.

Patent Owner provides an extensive discussion of claim construction (PO Resp. 2–16) and concludes Petitioner’s proposed constructions “are both irrelevant and incorrect.” *Id.* at 16.

In its Reply, Petitioner asserts that “Claims Construction Is Relevant.” Pet. Reply 2.

It is beyond reasonable dispute that claim construction is relevant to a determination of patentability. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (citation omitted) (“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’”); Giles S. Rich, *The Extent of the Protection and Interpretation of Claims-American Perspectives*, 21 Int’l Rev. Indus. Prop. & Copyright L., 497, 499 (1990) (“The name of the game is the claim.”). This does not mean, however, that every word of every claim requires specific construction. *Vivid Techs.*, 200 F.3d at 803.

We determine that an explicit construction of the two “coupling segment” clauses identified by Petitioner is not necessary for this Decision.

## 2. “Arcuate Surfaces

In our Institution Decision, we construed the term “arcuate surfaces” recited in claim 1 on our own initiative. Dec. Inst. 8. We stated the claims require “coupling segments having arcuate surfaces adapted to interface with the outer surfaces of said pipe elements.” *Id.* It is the “arcuate surfaces” that engage with the outer surface of the pipe, as recited in independent claims 1 and 9. It also is the “arcuate surfaces” that conform to the outer surfaces of the pipe when the coupling segments are deformed, as recited in dependent claims 2 and 10.

As described in the Specification, coupling segments 12, 14 each have a pair of spaced, arcuate surfaces 32 and 34. Ex. 1001, 3:64-66. Arcuate surfaces 32 and 34 extend from housing 36. *Id.* at 3:67–4:3; Figs. 1A, 2. Accordingly, we determined the broadest reasonable construction of the phrase “arcuate surfaces,” in light of the Specification, to mean arcuate surfaces on the housing of each coupling segment. Dec. Inst. 8.

Patent Owner suggests a “slightly modified” construction of the phrase “arcuate surfaces.” According to Patent Owner, our proposed construction “is slightly imprecise and thus inaccurate” to the extent it could be interpreted as providing that a coupling segment “can comprise more than a ‘housing.’” PO Resp. 16–17. It is Patent Owner’s position that each coupling segment “includes only a housing segment, and no other components.” *Id.* at 17. Patent Owner further asserts that “other coupling components, such as the seal, are not part of the coupling segments.” *Id.* Patent Owner concludes that “the correct construction of ‘arcuate surfaces’ is ‘arcuate surfaces on the coupling segments that comprise the coupling housing.’” *Id.* at 17.

Petitioner disagrees with Patent Owner’s proposed modification. Pet. Reply 4. Petitioner points out that the Specification states “the [coupling] segments have *connection members*, typically in the form of lugs which project outwardly from the housings.” *Id.* (citing Ex. 1001 at 1:44-46 (emphasis added by Petitioner)). Petitioner asserts that “[t]his description contradicts Victaulic’s assertion that each coupling segment only includes a housing.” *Id.* This quoted excerpt is from the section of the Specification titled “Background of the Invention.” Although it is not clear whether the text quoted by Petitioner refers to “background” prior art devices or to the disclosed and claimed method, we agree with Petitioner that Patent Owner’s

proffered “slightly modified” construction of the phrase “arcuate surfaces” is *not* the broadest reasonable construction, as we explain below.<sup>6</sup>

We give the claims their broadest reasonable construction in light of the Specification. We disagree with Patent Owner’s position that each coupling segment “includes only a housing segment, and no other components.” PO Resp. 17. Indeed, Patent Owner admits the coupling is comprised of coupling segments *and* other components, such as “bolts, nuts and spacers.” *Id.* at 18. As disclosed, coupling segments 12, 14 also include lugs 24, 26, respectively, as shown in Figure 2. Ex. 1001, col. 3:54–63.

The Specification is very clear in stating that coupling segments 12, 14 each have a pair of spaced, arcuate surfaces 32 and 34 (*id.* at 3:64-66), and stating that arcuate surfaces 32 and 34 extend from housing 36 (*id.* at 3:67–4:3; Figs. 1A, 2). The housing is an area or surface of the coupling segment. As shown in Figure 1, it is sidewalls 38 and back wall 40 of housing 36 that defines channel 42, which retains seal 44. In the embodiment shown in Figure 6, sections of increased bending flexibility 66 may be formed in housing 36 of segments 12 and 14. *Id.* at 5:43–45. In Figure 16, similar to Figures 1 and 2, segments 138 and 140 have a channel 162 defined by housing 164. *Id.*

Claims 2 and 10 do not recite specifically the disclosed lugs and fasteners, such as bolts. Lugs and fasteners are recited in dependent claims 8

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<sup>6</sup> Petitioner also asserts that “[t]he Board, in its discretion, may consult Tyco’s request for rehearing, filed on June 28, 2016 and denied on September 7, 2016, regarding claim construction.” Pet. Reply 5. We regard Petitioner’s suggestion as an improper incorporation by reference. 37 C.F.R. § 42.6(a)(3). We referred above to our Decision denying rehearing as part of the historical record, not as a renewed or repeated argument by Petitioner.

and 16, thus suggesting that they are not specifically included in the broader claims 1 and 9 from which claims 2 and 10 depend. Claims 2 and 10 also do not recite a seal or the channel in which a seal is retained. Claims 2 and 10 also do not recite a “housing.”

Based on the claim language and the Specification, we are persuaded that the evidence establishes our construction is consistent with the Specification.

In the context of the claim language and the Specification, the broadest reasonable interpretation of the phrase “arcuate surfaces” as used in claims 2 and 10 (“said coupling segments having arcuate surfaces adapted to interface with the outer surfaces of said pipe elements”) is that the arcuate surfaces are on the housing area of the coupling segments, which, to avoid any confusion, includes extending from the housing area.

A substantial part of Patent Owner’s claim construction argument focuses on the seal element. *E.g.*, PO Resp. 17 (“other coupling components, such as the seal, are not part of the coupling segments”); 18 (“The arcuate surfaces are on the coupling segments, and not on the seal.”); 19 (“a coupling includes separate housing or coupling segments and seals”). We agree that the housing or coupling segments are separate and distinct from the seal element. We note that a seal is not included as an element in claims 2 and 10.

Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.

*Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) (citations omitted).

Accordingly, we maintain our original determination (Dec. Inst. 8) that the broadest reasonable construction of the phrase “arcuate surfaces,” in light of the Specification, and the construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention, is that the phrase “arcuate surfaces” means arcuate surfaces on the housing of each coupling segment.

### *B. Grounds of Unpatentability*

#### *1. Obviousness Based on Vieregge and Lane*

Section 103(a) forbids issuance of a patent when “the differences between the subject matter sought to be patented 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 on the basis of 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) when available, secondary considerations, such as commercial success, long felt but unsolved needs, and failure of others. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966); see *KSR*, 550 U.S. at 407 (“While the sequence of these questions might be reordered in any particular case, the [Graham] factors continue to define the inquiry that controls.”). The Court in *Graham* explained that these factual inquiries promote “uniformity and definiteness,” for “[w]hat is obvious is

not a question upon which there is likely to be uniformity of thought in every given factual context.” *Id.* at 18.

The Supreme Court made clear that we apply “an expansive and flexible approach” to the question of obviousness. *KSR*, 550 U.S. at 415. Whether a patent claiming the combination of prior art elements would have been obvious is determined by whether the improvement is more than the predictable use of prior art elements according to their established functions. *Id.* at 417. To reach this conclusion, however, it is not enough to show merely that the prior art includes separate references covering each separate limitation in a challenged claim. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). Rather, obviousness additionally requires that a person of ordinary skill at the time of the invention “would have selected and combined those prior art elements in the normal course of research and development to yield the claimed invention.” *Id.*

“A reference must be considered for everything it teaches by way of technology and is not limited to the particular invention it is describing and attempting to protect.” *EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907 (Fed. Cir. 1985).

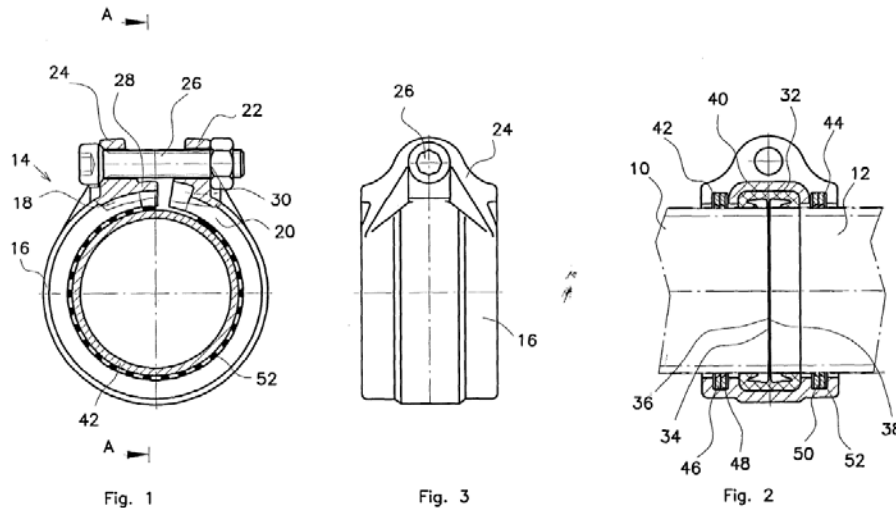
As a factfinder, we also must be aware “of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning.” *KSR*, 550 U.S. at 421. This does not deny us, however, “recourse to common sense” or to that which the prior art teaches. *Id.*

Against this general background, we consider the references, other evidence, and arguments on which the parties rely.

*a. Scope and Content of the Prior Art*

*i. Vieregge (Ex. 1003)*

Vieregge discloses a coupling for connecting two tubes or pipes. Ex. 1003, 1:7–8. The coupling includes an annular housing which peripherally surrounds the tubes in a pressure-tight manner at the mutually facing end faces of the tubes. *Id.* at 1:9–12. A seal ring seals the housing with respect to the tubes. *Id.* at 1:12–13. Figures 1–3, reproduced below, illustrate the coupling disclosed in Vieregge.



Figures 1 and 2 from Vieregge are sectional views of a coupling for tubes. Figure 3 is a side view of the housing of the coupling.

As shown in the figures, housing 16, in the form of an open ring, includes flanges 22, 24. Ex. 1003, 13:1–10. Alternatively, the coupling may be made of “two or three partial rings or shells, which are connected by connecting elements.” *Id.* at 5:32–6:8. Bolt 26 is tightened to close the coupling around the interface of tubes 10, 12 “securing and pressure-tightly connecting” tubes 10 and 12 “to the extent necessary.” *Id.* at 13:5–10; *see also* Fig. 2 (illustrating the coupling surrounding tubes 10, 12).

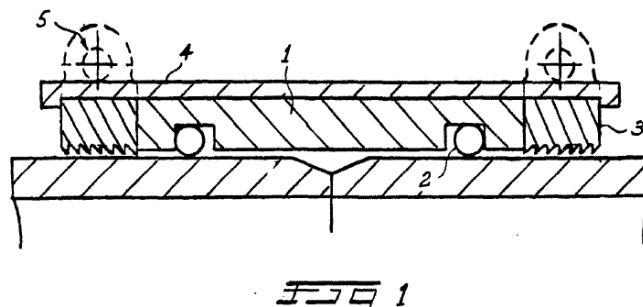
Seal ring 32 is maintained in annular chamber 40 of the coupling housing. *Id.* at 13:27. As shown in Figure 7, the seal may include outer limbs 86, 88 and a central limb 90. *Id.* at 15:6–12. The outer limbs function as “sealing lips.” *Id.* at 21:13–23. The seal provides a leak tight engagement with the tube. *E.g., id.* at 2:24–27.

“Fixing elements,” in the form of annular washers 46, 48, 50, 52 are formed in adjacent annular chambers 42, 44. *Id.* at 13:32–35. The fixing elements have “tooth-like projections” (see Figs. 12, 13) (*id.* at 13:36–37), which press into the outer surface of the tube if the tube is pulled or pushed out of the coupling. *Id.* at 8:1–16, 17:35–38. The fixing elements provide a “positive-locking” engagement with the tube. *Id.* at 2:12–22. As the coupling is tightened, the fixing elements “are pressed more strongly into the outer surfaces” of the tubes. *Id.* at 22:5–11.

To assemble tubes 10, 12 and the coupling, the tubes are “inserted into” the pre-assembled coupling with the tubes resting in a sealing manner on the seal. *Id.* at 15:18–20.

ii. *Lane (Ex. 1004)*

Lane discloses a coupling or joint for connecting co-axial lengths of piping. Ex. 1004, 2:3–4. Figures 1 and 2 from Lane are reproduced below.



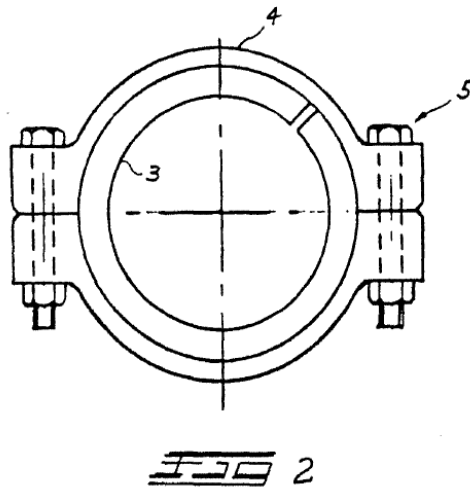


Figure 1 is a partially sectioned side elevation of a pipe coupling in an untightened condition. *Id.* at 5:34–36. Figure 2 is an end elevation of the pipe coupling of Figure 1, but shown in a tightened condition. *Id.* at 6:1–2. As shown in Figures 1 and 2, the coupling includes tubular body 1 and seal ring 2, which ensures a seal between the body and the pipe when the coupling is tightened. *Id.* at 6:20–25. Tubular body 1 is made from a material with a modulus of elasticity that is sufficiently low to enable tubular body 1 to deform into contact with the outer walls of the pipes when the coupling is tightened. *Id.* at 6:27–32. Annular grippers 3 are located at each end of tubular body 1. *Id.* at 7:11–12. Enclosing tubular body 1 and grippers 3 is annular enclosure ring 4, which consists of two shells with mating flanges which can be clamped, and drawn inwardly, by means of suitable fasteners, such as bolts and nuts 5. *Id.* at 7:15–20. Lane describes an alternate arrangement in its Figure 4, reproduced below, where annular “gripping formations 6” are part of the annular enclosure ring 4, rather than being separate components. *Id.* at 9:20–22.

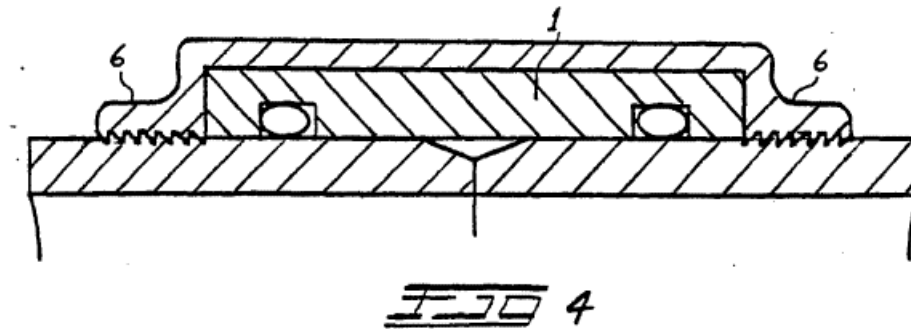


Figure 4 from Lane is a partially sectioned side elevation of a pipe coupling.

In use, the coupling is assembled with clamping fasteners 5 in the untightened position. Ends of two co-axial pipes are inserted into each end of the coupling and positioned centrally, abutting one another. *Id.* at 7:22–25. Inserting the pipe ends into the pre-assembled coupling is achieved with a minimum of resistance because there is a clearance between the gripper ring gripping edges and the outside of the pipes, and the sealing rings have a clearance between their inner edges and the outside of the pipes, or at worst a light interference fit. *Id.* at 7:27–32.

Once the pipes and coupling are in the correct position, clamping fasteners 5 are progressively tightened. *Id.* at 8:1–2. The gripping edges of the annular grippers are deflected radially inward towards the pipe surfaces and then into the pipe surfaces. *Id.* at 8:7–9. Tubular body 1 is compressed and deforms until circumferential contact is made between the tubular body and the outer surfaces of the pipes. *Id.* at 8:11–14.

*b. Differences Between the Claimed Subject Matter and the Prior Art*

According to Petitioner, “Vierегge describes all of the limitations in claims 1, 4–9 and 12–16 of the 165 Patent, and anticipates those claims.” Pet. 17. In our Decision to Institute, we disagreed with Petitioner’s position in denying an asserted ground that Vierегge anticipated independent claims

1 and 9. Dec. Inst. 11 (“the determinative issue is whether the arcuate surfaces of the fixing elements in Vieregge are on the housing of each coupling segment. On the record before us, we are unpersuaded that they are.”). Thus, we determined that Vieregge did not disclose a coupling segment having arcuate surfaces as recited in the claims. As explained below, Petitioner relies on Lane for this missing element. Petitioner also relies on Lane for the “deform to conform” step recited in claims 2 and 10.

Claims 2 and 10 each recite the step of deforming the “coupling segments” to conform to the outer surface of the pipe. Patent Owner asserts that Lane does not disclose the “deform to conform” limitations of claims 2 and 10 under either the Board’s construction of “arcuate surfaces” or Patent Owner’s proposed modified, but rejected, construction of “arcuate surfaces.” PO Resp. 20–21. Patent Owner also asserts Vieregge and Lane “would not be combined by one of ordinary skill.” *Id.* at 21.

In determining the differences between the prior art and the claims, the question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F. 2d 158, 164 (Fed. Cir. 1985) (“It is elementary that the claimed invention must be considered as a whole in deciding the question of obviousness.”) (citation omitted); see also *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1537 (Fed. Cir. 1983) (“[T]he question under 35 U.S.C. § 103 is not whether the differences themselves would have been obvious. Consideration of differences, like each of the findings set forth in *Graham*, is but an aid in reaching the ultimate determination of whether the claimed invention as a whole would have been obvious.”) (citation omitted).

*c. Level of Ordinary Skill*

Petitioner asserts a person of ordinary skill in the relevant technology would have a Bachelor's degree in mechanical engineering or equivalent, and 2 to 5 years of relevant experience in the coupling arts. Pet. 11 (citing Ex. 1010 ¶¶ 18–19). Patent Owner did not propose in its Preliminary Response or in its Response a level of skill in the relevant technology.

The level of skill in the art is “a prism or lens” through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). The absence of an express finding about the level of skill in the art “does not give rise to reversible error ‘where the prior art itself reflects an appropriate level and a need for testimony is not shown.’” *Id.* The Supreme Court informs us that “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR*, 550 U.S. at 421. For purposes of this Decision we determine that the prior art itself reflects an appropriate skill level.

*d. Discussion of Obviousness Based on Prior Art*

Petitioner asserts a person of ordinary skill in the relevant technology would have been guided by the teachings of Vieregge and Lane to select a pre-assembled coupling with suitable configuration to allow the coupling or housing segments to deform and conform to the shape of the pipe as the coupling's nuts and bolts fasteners are tightened. Pet. 39.

Petitioner notes Lane's discussion of its fixing elements (grippers 3) being deflected radially inward into the pipe surface and Lane's Figure 4, discussed above, which includes integrated fixing elements. *Id.* at 38–39 (citing Ex. 1004, 5:22–23, 8:3–9). Petitioner contends that Lane “describes a coupling with segments that conform to the outer surfaces of the pipes

upon application of pressure . . . due to tightening of the fasteners such that the coupling segments contact and conform to the pipe’s surfaces.” *Id.* at 38 (citing Ex. 1004, 5:22–23). Petitioner reasons that a person of ordinary skill in the art “would have been motivated to use such a deformable coupling so as to ensure a better and tighter fit around the joint.” *Id.* at 39 (citing (Ex. 1004, 2:10–24, 3:32–36, 11:12–15; Ex. 1010 ¶¶ 40–42 and 68–72). This would result in Vieregge’s modified structure having arcuate surfaces of the coupling segments that interface with and *engage* the outer surfaces of the pipe elements, as recited in claim 1, *and* that *deform to conform* to the outer surfaces of the pipe elements, as recited in claims 2 and 10.

Petitioner’s rationale for the proposed modification is a person of ordinary skill and creativity would have been motivated to use such a deformable coupling so as to ensure a better and tighter fit around the joint. Pet. 39 (citing Ex. 1010 ¶¶ 40–42, 68–72).

Patent Owner asserts two reasons why the proposed combination of Vieregge and Lane is improper. First, Patent Owner asserts that Lane does not disclose the “deform to conform” limitations of claims 2 and 10. PO Resp. 20–21. Second, Patent Owner also asserts Vieregge and Lane “would not be combined by one of ordinary skill.” *Id.* at 21.

*i. “Deform to Conform” Step*

Claims 2 and 10 are substantially identical and recite:

deforming said coupling segments so as to conform the curvature of said arcuate surfaces of said coupling segments to said outer surfaces of said pipe elements.

As pointed out by Patent Owner, this “deform to conform” step has two requirements: (1) the coupling segments must deform; and (2) that deformation must cause the arcuate surfaces of the coupling segments to

conform to the outer surfaces of the pipe elements. PO Resp. 21. Patent Owner asserts that it is tubular body 1 of Lane that deforms to conform to the outer surface of the pipe, and “[t]ubular body 1 [of Lane] is not the coupling segments of the 165 patent claims.” *Id.* at 24. Patent Owner also asserts that “[t]ubular body 1 is the seal retaining component of the Lane couplings.”

Patent Owner contends that “missing is a disclosure in Lane that (1) the segments deform and (2) the segments’ deformation causes their arcuate surfaces to conform to the outer surfaces of the pipes.” PO Resp. 26. Patent Owner fails to even acknowledge, let alone address, Lane’s disclosure that gripper portions 3 in Lane are **deflected** radially inward. Gripper portions 3 deflecting radially inward refutes Patent Owner’s assertion that “the segments . . . drawn together without deforming them.” *Id.* We are persuaded that Lane’s discussion of deflecting teaches the “deform to conform” step, and at least suggests the same for the embodiment of Figure 4 where those gripper portions are part of the coupling segments (i.e., it suggests to one skilled in the art that having the deflection in the Figure 4 embodiment would be beneficial “to ensure a better and tighter fit around the joint”).

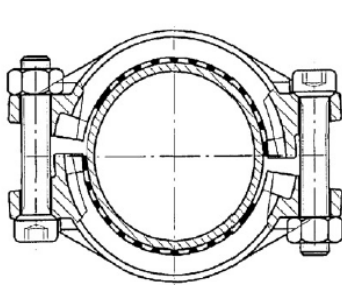
Patent Owner’s criticism of Lane (PO Resp. 24–27 (citing Ex. 2006)) fails to consider that the determination of whether a claimed invention would have been obvious is based on what the combined teachings of the references would have suggested to those of ordinary skill in the art. *MCM Portfolio LLC v. Hewlett-Packard Co.*, 812 F.3d 1284, 1294 (Fed. Cir. 2015) (“[W]e have consistently held, as the Board recognized, that ‘[t]he test for obviousness is not whether the features of a secondary reference may be

bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” (citations omitted)). We discuss the combined teachings of the references below.

*ii. Combining Vieregge and Lane*

Patent Owner asserts “[i]t is a non-intuitive leap to combine Vieregge and Lane because they are such different couplings.” PO Resp. 27. We recognize the differences. We also recognize the similarities.

The illustrations below indicate the substantial similarities among Vieregge, Lane, and the ’165 patent.



Petitioner's modified  
Fig. 1 of Vieregge.  
Pet. 20.

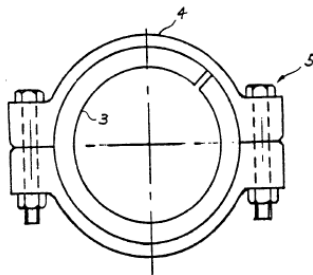


Fig. 2 of Lane.

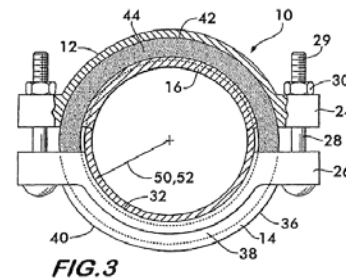


Fig. 3 of '165 patent.

Vieregge and Lane both disclose couplings for pipes. Vieregge and Lane both recognize the advantages of using preassembled couplings, which suggests to a person of ordinary skill that their teaching are combinable. Ex. 1010 ¶ 72. A person of ordinary skill would have found it advantageous to combine the teachings of Vieregge and Lane to provide a coupling with housing segments that deflect or deform as the nut and bolt fasteners are tightened because it would provide a tighter seal around the pipe joint. *Id.* A person of ordinary skill would have been guided by the descriptions in

Vierегge and Lane to provide deformable gripper or fixing elements as part of their coupling segments. *Id.* (citing Ex. 1004, 9:20–22).

The nomenclature used to describe elements in Vierегge, Lane, and the invention disclosed and claimed in the '165 patent may be different, but the evidence establishes the fundamental similarity of components and methods of securing pipes among all three. If a technique, such as the “deform to conform” step, has been used to improve one device, as in Lane, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, such as applying its basic teachings to Vierегge, using the technique would have been obvious unless its actual application is beyond her or his skill. *See KSR*, 550 U.S. at 417.

Considering that a person of ordinary skill “is also a person of ordinary creativity, not an automaton” (*id.* at 421), we are persuaded that Petitioner’s proposed modification of Vierегge based on Lane is within the skill and creativity of a person of ordinary skill in this technology. We also are persuaded that making the proposed modification for the reason asserted by Petitioner – to ensure a better and tighter fit around the pipe joint – is consistent with Vierегge’s use of fixing elements to secure a tight fit between the coupling and pipe. The objective clearly is to achieve a tight fit around the pipe joint, and the references disclose various options available to a skilled person to achieve the desired tight fit, including the use of deformable elements.

*e. Objective Evidence*

Patent Owner asserts that “secondary considerations” establish that claims 2 and 10 would not have been obvious. PO Resp. 29–30. Patent Owner relies on the Declaration testimony of Lawrence W. Thau, Jr. *Id.*

Patent Owner's argument is an approximately 1 page summary (PO Resp. 29–30) of Mr. Thau's 74-page testimony and attached exhibits (Ex. 2005) on which Mr. Thau relies.<sup>7</sup> Petitioner asserts that Patent Owner's evidence and arguments do not tip the evidentiary scale in favor of patentability. Pet. Reply 11–17. Petitioner relies on the Declaration testimony of Dr. William Kerr (Ex. 1119).

Objective indicia of non-obviousness play an important role as a guard against the statutorily proscribed hindsight reasoning in the obviousness analysis. *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1328 (Fed. Cir. 2016). “[E]vidence of secondary considerations may often be the most probative and cogent evidence in the record.” *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983). “[E]vidence rising out of the so-called ‘secondary considerations’ must always when present be considered en route to a determination of obviousness.” *Id.* at 1538. “For objective evidence . . . to be accorded substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention.” *In re Kao*, 639 F.3d 1057, 1068 (Fed.Cir.2011) (quoting *Wyers*

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<sup>7</sup> The Board has declined to consider information presented in a supporting declaration, but not discussed sufficiently in a paper filed in an IPR proceeding because, among other reasons, doing so would permit the use of declarations to circumvent the page limits or word counts that apply to petitions and Patent Owner responses. *E.g., see Fidelity National Information Services, Inc. v. DataTreasury Corp.*, IPR2014-00489, Paper 9, slip op. at 9–10 (PTAB Aug. 13, 2014) (“We, therefore, decline to consider information presented in a supporting declaration, but not discussed sufficiently in a petition; among other reasons, doing so would permit the use of declarations to circumvent the page limits that apply to petitions.”). Here, we exercise our discretion to address Patent Owner's argument concerning “secondary considerations.”

*v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed.Cir.2010)) (emphasis omitted) (internal quotation marks omitted).

Patent Owner offers evidence it asserts shows objective evidence of non-obviousness (PO Resp. 29–30) in the form of commercial success (*id.* at 29), long-felt and unresolved need (*id.*), skepticism of the inventions by Patent Owner’s management (*id.*), unexpected results (*id.*), and copying by competitors (*id.* at 30). Patent Owner recognizes there must be a nexus between the objective evidence and the merits of the claimed invention. To establish nexus, Patent Owner asserts “use of Victaulic’s Style 009 couplings,” when assembled in accordance with Victaulic’s instructions, “is covered by the ’165 patent claims.” *Id.* at 29.

We have reviewed the arguments and evidence cited in these papers.

*i. Nexus*

For objective indicia evidence to be accorded substantial weight, “a nexus must exist ‘between the evidence and the merits of the claimed invention.’” *Novartis Ag V. Torrent Pharmaceuticals*, No. 2016-1352, slip op. at 24, Fed. Cir. April 12, 2017) (citing *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1246 (Fed. Cir. 2010)).

Patent Owner relies on one specific product, its “Style 009” coupling, to establish nexus. PO Resp. 29 (citing Ex. 2005 ¶¶ 13–15). Mr. Thau, on whose testimony Patent Owner relies, was employed by Patent Owner for 42 years. Ex. 2005 ¶ 2. He started as a Project Engineer and retired as Executive Vice President and Chief Technical Officer. *Id.* He retired from Patent Owner in 2015 and is now a “retained consultant” of Patent Owner. *Id.* at ¶ 1.

To establish nexus, Mr. Thau relies on drawings of the Style 009 coupling (Ex. 2005, Ex. B); installation instructions for the Style 009 (*id.* at Ex. C); and a comparison of claims 2 and 10 to the Style 009 coupling when used in accordance with Victaulic’s instructions (*id.* at Ex. D). Mr. Thau’s testimony also refers to a sales chart comparing sales of the Style 009 coupling to its predecessor, the Style 005 coupling (*id.* at Ex. E); and price comparison charts for the Style 009 and Style 005 (*id.* at Ex. F).

Petitioner asserts “there is no nexus to the merits of the claimed invention.” Pet. Reply 11. Petitioner asserts no persuasive evidence to support this argument and conclusion.

“Questions of nexus are highly fact-dependent . . . . ‘It is within the province of the fact-finder to resolve these factual disputes regarding whether a nexus exists between commercial success of the product and its patented features, and to determine the probative value of evidence of secondary considerations.’” *WBIP*, 829 F.3d at 1331 (citing *Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.*, 75 F.3d 1568, 1574 (Fed. Cir. 1996)).

We recognize that it is the claimed combination as a whole that serves as a nexus for the objective evidence. *WBIP*, 829 F.3d at 1330; *see also id.* at 1332 (stating that this is especially true for a combination of elements that were known individually in the prior art, because commercial success may be linked to the inventive combination of known elements).

We determine that sufficient evidence establishes that the Style 009 coupling is an embodiment of the claimed invention and that the proffered objective evidence relates to these products. This is sufficient to establish nexus for the objective considerations at issue in this case. Establishing nexus, however, does not establish commercial success or other objective

indicia of patentability. *In re Kao*, 639 F.3d at 1067 (when secondary considerations are present, “they are not always dispositive”); *see also Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1372 (Fed.Cir.2007) (“Although secondary considerations must be taken into account, they do not necessarily control the obviousness conclusion.”).

We consider below the objective evidence of non-obviousness asserted by Patent Owner. We then consider the totality of the evidence in our conclusion on patentability.

*ii. Commercial Success*

Patent Owner asserts its Style 009 couplings “have been very successful commercially.” PO Resp. 29 (citing Ex. 2005 ¶¶ 16–18). Mr. Thau relies, in part, on comparing sales of the Style 009 coupling to its predecessor, the Style 005 coupling. Ex. 2005 ¶ 17. The Style 005 couplings are couplings installed by the traditional method not the method claimed in the ’165 patent. *Id.* Use of the Style 005 coupling is not covered by any of the ’165 patent claims. *Id.*

Mr. Thau testifies that sales of the Style 009 coupling have been “greatly increasing” while sales of the Style 005 coupling have been “steadily decreasing.” *Id.* at ¶ 18 (citing Ex. 2005, Ex. E (confidential)). Mr. Thau also states that the Style 009 couplings and the Style 005 couplings have been “equally advertised, marketed and promoted,” and historically the prices of the Style 009 couplings and the Style 005 couplings have been “comparable.” *Id.* The evidence supports increasing sales. *See* Ex. 2005, Ex. E. The evidence does *not* support historically comparable prices. *See* Ex. 2005, Ex. F.

Exhibit F of Mr. Thau's Declaration is a series of five charts comparing the "list price" of five different sizes of the Style 005 and Style 009 couplings. All five charts are consistent and show that but for a short period when the Style 009 coupling was introduced, the Style 009 coupling has been consistently *less expensive* than the Style 005 coupling. The price differential between the two couplings has been increasing from about 2008/2009 through about mid-2016, the last period of reported data. Based on the most current data, the price differential is that the Style 009 coupling is about 10% *less expensive* than the Style 005 coupling. *E.g.* Ex. 2005, Ex. F, chart for the 1.5" coupling (showing a list price of about \$52 for the Style 009 and a list price of about \$59 for the Style 005). Thus, the alleged new and improved coupling is less expensive than the old, traditional coupling.

Dr. Kerr, testifying on behalf of Petitioner takes a different view of Patent Owner's alleged commercial success. Dr. Kerr is an economist who specializes in the economics of competition and intellectual property. Ex. 1119 ¶ 2. Dr. Kerr's opinion is that "there is no evidence to show that the claimed invention was the source of the commercial success" of the Style 009 coupling. *Id.* ¶ 8. Dr. Kerr testifies that he has "not found any evidence that shows *any* specific feature contributed to the sales and commercial success of the 009 couplings. *Id.* Dr. Kerr's view is that "[t]he general coupling market is a commodity market, where typically price is the primary driver of sales." *Id.* He observes that "[s]ales of the 009 couplings increased substantially after the price of the 009 coupling declined relative to the price of its predecessor, the 005 coupling." *Id.*; *see also* ¶¶ 19–31 (analyzing the market and concluding the rise in sales occurred when prices declined). This opinion is consistent with the data presented by Mr. Thau.

Based on this evidence, Dr. Kerr concludes that “a lower price drove the increase in sales. *Id.* at 8.

Based on our analysis of the evidence, we determine that the evidence does not establish that the Style 009 coupling was commercially successful because of the merits of the claimed invention. Based on the evidence, the increased sales of the Style 009 coupling compared to sales of the Style 005 coupling appear to be based on the fact that the Style 009 had a lower price. There is no persuasive evidence that the commercial success alleged is derived from the invention claimed. There is no evidence, for example, that the Style 009 garnered an increased market share over that previously achieved by the Style 005. There is no evidence that the combined market share of the Style 009 and Style 005 was any better than the market share of the Style 005 alone, prior to the Style 009. The increased sales of the new model Style 009 may have cannibalized sales from the old model Style 005, which would provide sales curves showing increasing sales of the Style 009 and decreasing sales of the Style 005. Such sales curves are not particularly persuasive of commercial success of a claimed invention, particularly coupled with evidence that the new and allegedly improved product was less expensive than the old product.

Accordingly, the evidence of commercial success has minimal probative weight.

*iii. Long Felt Need*

Long-felt need can be shown by evidence that indicates that the prior art had a recognized need for a solution to the problem and that others had tried and failed to find a solution to that problem. *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1325 (Fed. Cir. 1999); *Stratoflex, Inc. v. Aeroquip*

*Corp.*, 713 F.2d 1530, 1540 (Fed. Cir. 1983). Notably, the case law characterizes the need in terms of a long-felt but *unresolved* need. *Al-Site*, 174 F.3d at 1325 (discussing “long felt but unresolved needs”).

Accordingly, Patent Owner must show that the need was both known and not resolved.

Patent Owner alleges that the Style 009 coupling and its method of use solved a long felt and unresolved need for couplings that could be quickly installed with minimal skill level, and installed without any disassembly. PO Resp. 29 (citing Ex. 2005 ¶¶ 21–31). As noted by Mr. Thau, the Examiner considering the reexamination of a related patent has rejected this assertion on the basis that one cannot claim to have discovered a solution which is already taught by the prior art. Ex. 2005 ¶ 26.

Petitioner asserts preassembled couplings are in the prior art, and therefore there was no longstanding need. Pet. Reply 14.

As discussed above, both Vieregge and Lane are pre-assembled couplings.

Accordingly, there is no persuasive evidence of a long-felt but unresolved need.

*iv. Skepticism by Patent Owner’s Management*

Patent Owner asserts “knowledgeable persons in Victaulic were skeptical of the inventions defined by the ’165 patent claims. PO Resp. 29 (citing Ex. 2005 ¶ 32). Mr. Thau summarizes the concerns of Patent Owner’s management in developing the Style 009 coupling. Ex. 2005 ¶ 32. Among the factors Mr. Thau identifies are concerns about the size and cost of the gasket used and performance requirements of the gasket. *Id.* We note, however, that the invention recited in claims 2 and 10 does not include

a gasket. Mr. Thau also states Patent Owner's management had concerns about manufacturing a deformable coupling because *Patent Owner* had not done so previously; concerns about shipping and handling of a pre-assembled coupling; and concerns that distributors and customers would be reluctant to maintain additional inventories of a new product. *Id.*

Evidence of *industry* skepticism weighs in favor of non-obviousness. *WBIP*, 829 F.3d at 1335. If *industry participants* or *skilled artisans* are skeptical about whether or how a problem could be solved or the workability of the claimed solution, it favors non-obviousness. *Id.* There is no persuasive evidence that skilled artisans or the "industry" were skeptical of workability of a pre-assembled, deformable coupling as claimed in claims 2 and 10. Mr. Thau provides evidence that Patent Owner's management was reluctant to "fund the commercial development" of the new coupling based on factors that had little to do with the merits of the claimed invention. *Id.*

As Petitioner notes, there is no persuasive evidence of skepticism by persons of ordinary skill in the relevant technology. Pet. Reply 15 (citing *Power Integrations Inc. v. Fairchild Semiconductor Int'l Inc.*, 711 F.3d 1348, 1368 (Fed. Cir. 2013)).

We assign little probative weight to the evidence of skepticism.

v. *Unexpected Results*

Patent Owner asserts the Style 009 couplings led to unexpected results. PO Resp. 29 (citing Ex. 2005 ¶ 33). According to Mr. Thau, the unexpected results were cost savings in installing coupling, fewer lost nuts and bolts, and thus, less opportunity to replace the lost nuts and bolts with the wrong sized parts. These results also would apply to any pre-assembled coupling, which were well-known in the prior art.

We assign little probative weight to the evidence of unexpected results.

vi. *Copying*

Patent Owner asserts the “claimed invention was copied by competitors.” PO Resp. 30 (citing Ex. 2005 ¶¶ 34–35). Mr. Thau testifies that a competitor, Anvil, copied the invention recited in claims 2 and 10. Ex. 2005 ¶ 34. According to Mr. Thau, he compared claims 2 and 10 to the Anvil product and concludes the Anvil product is a “copycat coupling.” *Id.* at ¶ 35 (“Exhibit J is my comparison of claims 1, 2, 9 and 10 of the 165 patent to use of the SlideLOK couplings in accordance with Anvil’s instructions.”).

For copying to be effective in showing non-obviousness, there must be more than simply a competing version of the product. *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1325 (Fed. Cir. 2004) (“Not every competing product that arguably falls within the scope of a patent is evidence of copying. Otherwise every infringement suit would automatically confirm the nonobviousness of the patent.”). Evidence of copying can be particularly persuasive when a competitor had tried and failed to introduce a competing product until the patented product became available. *Vandenberg v. Dairy Equipment Co., a Div. of DEC Int’l, Inc.*, 740 F.2d 1560, 1567 (Fed. Cir. 1984). We have no such evidence in this case.

Merely offering competing products or alleging infringement are not signs of non-obviousness. *Wyers v. Master Lock*, 616 F.3d at 1246 (Fed. Cir. 2010). The secondary consideration of copying is very specific—“evidence of efforts to replicate a specific product.” *Id.* This specifically is

not evidence of efforts to provide a competing product or evidence of a product having the same features, or we would be reading out the crux of the basis for the court's reasoning in *Wyers*, that "[n]ot every competing product that arguably falls within the scope of a patent is evidence of copying." *Id.*

Here, we have no evidence of efforts to replicate a specific product. Thus, the evidence on which Patent Owner relies has no probative weight of copying.

*vii. Conclusion Regarding Objective Evidence*

Based on the analysis above, we find a nexus between the asserted objective evidence and the '905 patent. However, considering the totality of objective evidence before us, we determine that the objective evidence has little if any probative weight in support of patentability of the challenged claims.

*f. Conclusion Regarding Patentability*

Based on the totality of evidence before us and the analysis above, we are persuaded that a preponderance of the evidence establishes that claims 2 and 10 would have been obvious to one of ordinary skill in the art based on *Vierregge and Lane*.

### III. CONCLUSION

Based on the analysis above, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 2 and 10 would have been obvious in view of *Vierregge and Lane*.

### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 2 and 10 are unpatentable under 35 U.S.C. § 103 based on *Vierregge and Lane*; and

FURTHER ORDERED that this is a Final Written Decision under 35 U.S.C. § 318(a), and that parties to the proceeding seeking judicial review of the decision under 35 U.S.C. § 319 must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2016-00278  
Patent 8,646,165 B2

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