

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TYCO FIRE PRODUCTS LP,
Petitioner,

v.

VICTAULIC CO.,
Patent Owner.

Case IPR2016-00276
Patent 8,733,799 B2

Before BENJAMIN D. M. WOOD, HYUN J. JUNG, and
BARRY L. GROSSMAN, *Administrative Patent Judges*.

WOOD, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background*

Tyco Fire Products LP (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–18 of U.S. Patent No. 8,733,799 B2 (Ex. 1001, “the ’799 patent”). Paper 2 (“Pet.”). Victaulic Co. (“Patent Owner”) filed a Preliminary Response. Paper 8 (“Prelim. Resp.”).

We have jurisdiction under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Upon considering the Petition and the Preliminary Response, we determine that Petitioner has not shown a reasonable likelihood that it would prevail in showing the unpatentability of at least one of the challenged claims. Accordingly, we deny the Petition.

B. *Related Proceedings*

Petitioner states that it has filed another petition for *inter partes* review of the ’799 patent, and has filed two petitions for *inter partes* review of a related patent. Pet. 3 (citing IPR2016-00277, IPR2016-00278, IPR2016-00279). Petitioner also states that other related patents have been the subject of various *inter partes* reexamination proceedings. *Id.* at 2.

C. *The ’799 Patent*

The ’799 patent issued May 27, 2014 from an application filed October 4, 2007, and claims priority to a provisional application filed May 14, 2004. Ex. 1001, cover page. The ’799 patent describes a fluid-tight mechanical coupling for joining pipe elements end-to-end. *Id.* at 1:14–23.

According to the '799 patent, prior art couplings required a technician to “totally disassemble and reassemble the coupling.” *Id.* at 2:9–14. The Specification asserts that “[s]ignificant time, effort and expense would be saved if the technician could install a mechanical pipe coupling without first totally disassembling it and then reassembling it, piece by piece.” *Id.* at 2:14–17. The '799 patent addresses this asserted problem with a coupling that allows the pipe elements to be inserted into a preassembled coupling. *Id.* at 4:27–36.

Figures 4, 5, and 6, reproduced below, illustrate the disclosed invention:

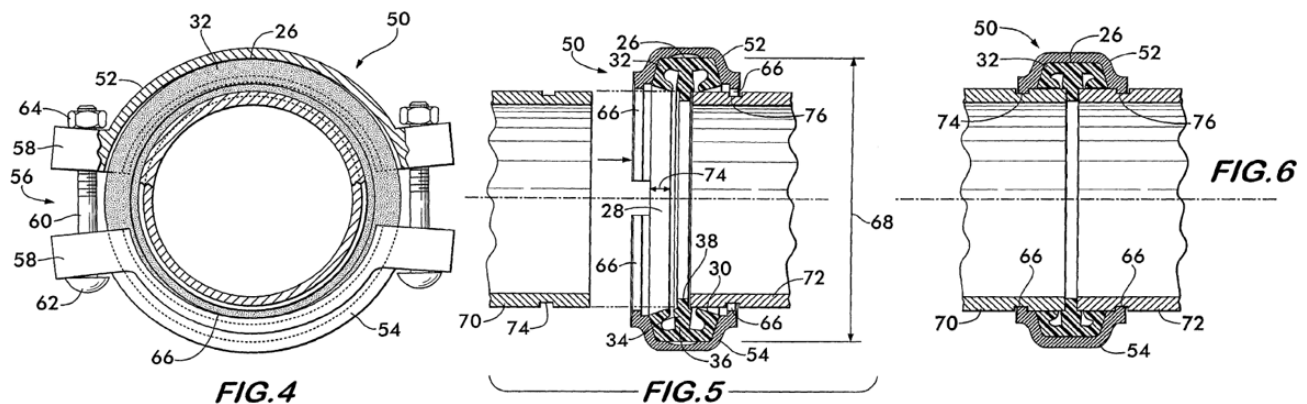


Figure 4 is an axial cross sectional view of one embodiment of the '799 patent coupling; Figures 5 and 6 depict longitudinal sectional views of the same coupling. *Id.* at 3:18–21. Figure 4 shows coupling 50 in a preassembled state, with segments 52 and 54 connected to one another by adjustably tightenable connection members 56, which comprise lugs 58, bolts 62, and nuts 64. *Id.* at 4:4–7, 11–17. The two segments surround sealing member 32. *Id.* at 4:4–7. As shown in Figure 5, sealing member 32 has a diameter 68 sized to maintain segments 52 and 54 in spaced relation with sufficient clearance to allow pipe elements 70 and 72 to be inserted

between the segments without disassembling the coupling. *Id.* at 4:27–32. Sealing member 32 also has sufficient stiffness to maintain the coupling segments in spaced apart relation during installation, but is also sufficiently resilient and flexible to allow it to deform when fasteners 60 are tightened to draw the coupling segments toward one another to engage the pipe elements. *Id.* at 4:36–42. According to the Specification, “[u]se of seals according to the invention thus provides significant advantage in reducing the labor required for assembly of the pipe joint as the coupling does not require total or even partial disassembly prior to the installation.” *Id.* at 4:32–36.

D. The Challenged Claims

Sole independent claim 1 is representative and is reproduced below:

1. In combination, first and second pipe elements, a sealing member and a coupling, said coupling comprising:
a plurality of segments joined end to end, said coupling for securing said pipe elements together in end to end relationship, said segments having surfaces facing inwardly and engageable with outer surfaces of said pipe elements, said segments having adjustably tightenable connection members for drawing said segments toward said pipe elements, each of said segments having an annular channel positioned between said surfaces, said sealing member being positioned between said segments within said annular channels, said sealing member comprising:
a flexible, resilient ring having a ring inner surface adapted to engage said outer surfaces of said pipe elements, said ring inner surface having a diameter sized to receive said pipe elements upon insertion of said pipe elements between said segments, said ring having a ring outer surface having a diameter for supporting said segments in a preassembled state wherein said segments are attached to one another by said connection members and supported on said ring in spaced apart relation

sufficient to allow said pipe elements to be axially inserted therebetween; and wherein

said segments being first joined end to end surrounding said ring, said segments being thereby initially supported on said ring in said spaced apart relation in said preassembled state, said pipe elements being then inserted into said ring supporting said segments, said segments then being adjustably tightened and drawing said segments toward and into engagement with said pipe elements.

E. Asserted Grounds of Unpatentability

Petitioners contend that the challenged claims are unpatentable based on the following specific grounds (Pet. 13–14, 18–54):

Reference[s]	Basis	Claim[s] Challenged
Vieregge ¹	§ 102(b)	1, 3–7, 9, 12, 13, and 16–18
Vieregge	§ 103	1 and 3–18
Vieregge and either Katis, ² Tribe, ³ or McLennan ⁴	§ 103	2

II. ANALYSIS

A. Claim Construction

We determine that no claim terms require express construction on this record and for purposes of this decision.

¹ German Patent Application No. DE 10006029 A1 (Aug. 30, 2001) (Ex. 1002) (English Transl. Ex. 1003).

² US 3,329,446 (Jul. 4, 1967) (Ex. 1004).

³ US 1,541,601 (Jun. 9, 1925) (Ex. 1005).

⁴ US 6,170,884 (Jan. 9, 2001) (Ex. 1006).

B. Claims 1, 3–7, 9, 12, 13, and 16–18—Anticipation by Vieregge

Petitioners allege that Vieregge anticipates claims 1, 3–7, 9, 12, 13, and 16–18. Pet. 17–40. Patent Owner opposes. Prelim. Resp. 3–13.

1. Vieregge

Vieregge discloses a coupling for connecting two tubes or pipes, comprising an annular housing, which peripherally surrounds the tubes in a pressure-tight manner at the mutually facing end faces of the tubes, and a seal, which seals the housing with respect to the tubes. Ex. 1003, 1:7–13. Figures 1, 2, and 4, reproduced below, illustrate Vieregge's coupling:

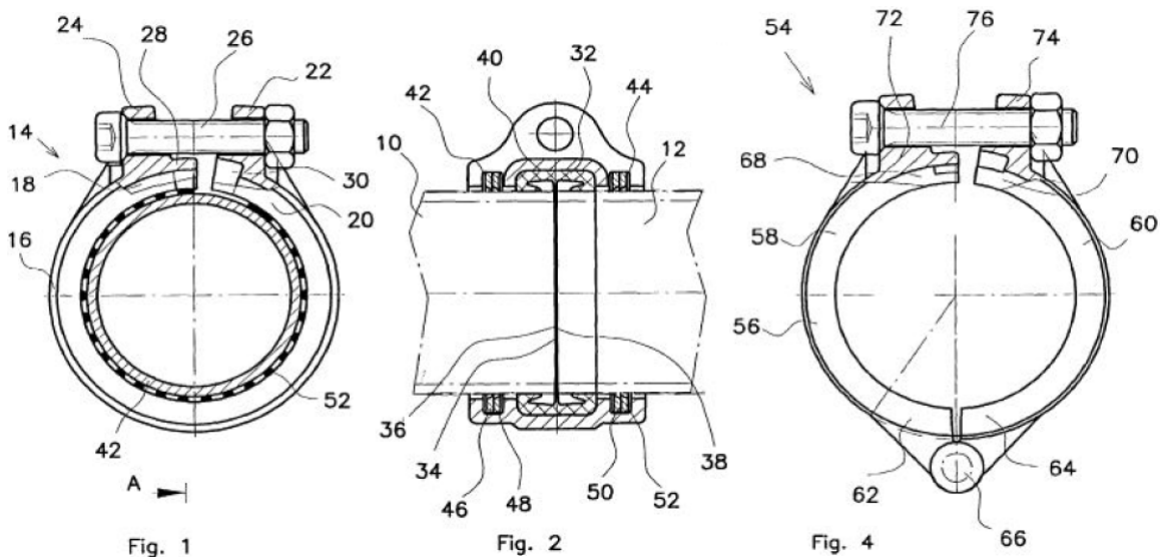


Figure 1 depicts a first embodiment in which housing 16 is in the form of an open ring having flanges 22, 24, through which a connecting element, such as screw bolt 26, passes to close the housing and connect the tubes. *Id.* at 9:36–37, 13:1–10. Figure 2 illustrates the coupling surrounding tubes 10, 12. Figure 4 depicts an alternative embodiment in which the housing is comprised of two identical half-rings or shells 58, 60 connected at one end in an articulated manner by pin 66, and at the other end with the lug and

screw bolt arrangement depicted in Figure 1. *Id.* at 14:10–27. As a further alternative (not specifically depicted in any of Vieregge’s figures), the housing may be comprised of two segments that are connected at both ends by the lug and screw bolt arrangement depicted in Figure 1. *Id.* at 5:32–6:2.

The embodiment shown in Figures 1 and 2 is further comprised of seal ring 32, which is maintained in annular chamber 40 of the coupling housing. *Id.* at 13:27–30. As shown in Figure 7, the seal may include outer limbs 86, 88 and a central limb 90. *Id.* at 15, Fig. 7. The outer limbs and central limb function as “sealing lips,” facilitating “double sealing” of tubes 10, 12. *Id.* at 18:15–24. Fixing elements, in the form of annular washers 46, 48, 50, 52, are arranged in adjacent annular chambers 42, 44. *Id.* at 13:32–36. The fixing elements have projections (see Figs. 12, 13), which press into the outer surface of the tube. *Id.* at 8, 17. As the coupling is tightened, the fixing elements “are pressed more strongly into the outer surfaces” of the tubes to resist the tubes being pulled from the coupling. *Id.* at 22.

2. Analysis

Petitioner contends that Vieregge anticipates claims 1, 3–7, 9, 12, 13, and 16–18. For example, with respect to the limitation in claim 1, “said coupling comprising a plurality of segments joined end to end,” Petitioner contends that “Vieregge describes a housing composed of multiple partial rings or half-shells connected to one another and closed by connecting elements, such as nuts and bolts.” Pet. 20 (citing Ex. 1003, 5:22–6:2, 14:10–27). According to Petitioner, “when the coupling shown in Figure 1 includes multiple segments, those segments can be connected to one another by a second connecting element (28, 26, 22), such as a second nut and screw bolt set.” *Id.* Petitioner further notes the Figure 4 coupling would satisfy

this limitation, “with articulated region (62, 64, 66) replaced by a second connecting element (72, 74, 76), such as a second nut and screw bolt set.” *Id.* at 21.

For the limitation “said segments having adjustably tightenable connection members for drawing said segments toward said pipe elements,” Petitioner relies on the radial flange-type projections and screw bolts shown in Figure 1. *Id.* at 23 (citing Ex. 1003, 13:4–10, 14:20–23). As discussed above, Vieregge discloses a coupling with a two-segment housing that uses the lug and screw bolt arrangement for both connections.

For the limitation requiring “said ring having a ring outer surface having *a diameter for supporting said segments* [attached to one another by said connection members in spaced apart relation] in a preassembled state,” Petitioner states that the “Vieregge embodiments constructed according to Figs. 1 and 4 provide couplings in a preassembled state . . . where the segments are attached to one another by said connection members.” *Id.* at 27 (citing Ex. 1003, 13:4–10, 14:10–25). Petitioner further contends that “Vieregge provides that the seal and a receptacle that is part of the housing can have matched external geometry so as to be in a bearing relationship, which allows for support of each other.” *Id.* (citing Ex. 1003, 6:16–20, 23:7–11). Petitioner concludes that “the seal and the housing mutually support one another in a spaced apart relationship to allow the pipes to be axially inserted.” *Id.* (citing Ex. 1008 ¶¶ 63–68).

For the similar limitation “said segments being first joined end to end surrounding said ring, *said segments being* thereby initially supported on

said ring in said spaced apart relation in said preassembled state,”⁵ Petitioner asserts that “Vierегge describes a housing composed of partial rings or partial shells connected to one another and closed by connecting elements, such as nuts and screw bolts,” and that “[a]n annular ring sized to accommodate the non-closed position (fasteners not fully tightened) of a multiple segment housing would support the segments in spaced apart relation while in the preassembled state.” *Id.* at 28.

Patent Owner disagrees that Vierегge anticipates any of the challenged claims. Among other things, Patent Owner disputes that Vierегge discloses the “supporting” limitations in claim 1. Patent Owner first asserts that the one-piece housing of Vierегge’s embodiment shown in Figure 1 is “self-supporting,” meaning that it “hold[s its] shape without support from any other coupling component.” Prelim. Resp. 12. Second, Patent Owner asserts that for the two-segment housing embodiment, the “annular fixing elements or washers . . . support the segments before the bolt assembly is tightened.” *Id.* According to Patent Owner, the annular fixing elements are composed of spring steel, and therefore “will exert a much greater force on a coupling housing than a seal or gasket.” *Id.* Third, Patent Owner contends that “Vierегge discloses that the seal is supported by the coupling segments, but not vice versa.” *Id.* (citing Ex. 1003, 7:28–35, 13:12–30). Finally, Patent Owner contends that the testimony of Petitioner’s declarant, Mr. Phillips, that “Vierегge’s sealing ring is made of rubber [having] the dimensions, material properties and requisite stiffness to

⁵ The latter two limitations may hereinafter be referred to as the “supporting” limitations.

support the light-weight housing segments,” is unsupported. *Id.* at 13 (citing Ex. 1008 ¶ 68).

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987). “The identical invention must be shown in as complete detail as is contained in the . . . claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989) (citations omitted). We have examined the record, in particular those portions of the record relied upon by Petitioner, and are not persuaded that Petitioner has a reasonable likelihood of prevailing in showing that Vieregge anticipates any of claims 1, 3–7, 9, 12, 13, and 16–18. Specifically, we are not persuaded that Petitioner is reasonably likely to prevail in showing that Vieregge discloses, either expressly or inherently, the “supporting” limitations.

First, Petitioner does not identify, and we do not find, any express disclosure in Vieregge that the sealing ring supports either the one-piece or two-piece housing when the coupling is in the claimed preassembled state. On the contrary, as Patent Owner points out, Vieregge’s Specification can be read to disclose the opposite, i.e., that the housing supports the ring. For example, Vieregge teaches that “[i]rrespective of whether the housing is of one-, two- or multi-part design . . . the seal is supported circumferentially on the housing” when the housing is closed. Ex. 1003, 6:4:14. *See also id.* at 13:27–30 (“The seal 32, which is designed as a ring seal, extends in a first annular chamber 40, which is closed both at the bottom and circumferentially, giving support for the seal 32 over the surface thereof.”).

Second, we do not find evidence sufficient to establish that these limitations are inherent in Vieregge. “Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes, the claimed limitations, it anticipates.” *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349 (Fed.Cir.2002) (citations and internal quotation marks omitted). “Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *In re Robertson*, 169 F.3d 743, 745 (Fed.Cir.1999) (citations and internal quotation marks omitted).

Assuming, arguendo, that Petitioner is correct that “Vieregge provides that the seal and a receptacle that is part of the housing can have matched external geometry so as to be in a bearing relationship” (Pet. 27 (citing Ex. 1003, 6:16–20, 23:7–11)),⁶ Petitioner’s conclusion—that “the seal and the housing mutually support one another in a spaced apart relationship to allow the pipes to be axially inserted”—does not necessarily follow. It is at least as possible that Vieregge’s one-piece housing is “self-supporting,” as Patent Owner contends, or that the multi-piece housing is supported by the fixing elements. Further, Petitioner’s contention that “[a]n annular ring sized to accommodate the non-closed position (fasteners not fully tightened) of a multiple segment housing would support the segments in spaced apart relation while in the preassembled state” (*id.* at 28) appears to be attorney

⁶ The cited excerpts appear to discuss Vieregge’s one-piece-housing embodiments, rather than the two-piece housing embodiments on which Petitioner otherwise relies. Ex. 1003, 6:16-20, 23:7-11. Further, the cited excerpts do not state that the seal and the “receptacle” are “in a bearing relationship,” but rather that the receptacle “serves as a bearing.” *Id.* at 6:17-20.

argument, as Petitioner does not support the statement with a citation to the record.

We have also reviewed the testimony of Petitioner's declarant, Samuel R. Phillips, P.E., and do not find it persuasive that Vieregge either expressly or inherently discloses the "supporting" limitations. Mr. Phillips testifies in relevant part that Vieregge's housing segments are described as being "low weight" and including "receptacles with a geometry that matches the sealing ring's geometry." Ex. 1008 ¶ 68. Mr. Phillips concludes that "Vieregge's sealing ring that is made of rubber has the dimensions, material properties and requisite stiffness to support the light-weight housing segments." *Id.* This testimony merely restates what is in the Petition, and is conclusory.

Petitioner's alternative anticipation contentions rely on the same evidence and arguments for the "supporting limitation discussed above. *See* Pet. 37–40. Therefore, we are not persuaded that Petitioner has shown a reasonable likelihood of prevailing in its challenge of claims 1, 3–7, 9, 12, 13, and 16–18 as anticipated by Vieregge.

C. Claims 1 and 3–18, Obviousness over Vieregge

Petitioner contends that "[t]o the extent that the relied upon sections of Vieregge describe the claim limitations with a slightly different language than what is recited in the challenged claims, in the presence of such differences, the claimed subject matter as a whole is rendered obvious by teachings and suggestions in Vieregge." Pet. 41. Petitioner does not, however, contend that the "supporting" limitations would have been obvious to one of ordinary skill. As discussed above, we are not persuaded that Vieregge discloses the "supporting" limitations. Accordingly, we are not

persuaded that the challenged claims would have been obvious over Vieregge.

D. Claims 2, Obviousness over Vieregge and either Katis, Tribe, or McLennan

Claim 2 depends from claim 1 and additionally recites “wherein at least one of said pipe elements has a circumferential groove in an outer surface thereof, said groove being positioned in spaced relation to an end of said at least one pipe element, at least one of said surfaces on each of said segments being engageable with said groove.” Petitioner contends that claim 2 would have been obvious over Vieregge and either Katis, Tribe, or McLennan. But Petitioner does not rely on any of Katis, Tribe, or McLennan to teach the supporting limitations. Therefore, none of these references can cure the defect noted above.

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has not shown that there is a reasonable likelihood that it would prevail with regard to at least one of the claims challenged in the Petition.

IV. ORDER

For the reasons given, it is

ORDERED that the Petition is *denied* and no trial is instituted.

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