

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TYCO FIRE PRODUCTS LP,
Petitioner,

v.

VICTAULIC CO.,
Patent Owner.

Case IPR2016-00277
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. 1101, “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 IPR2016-00276, 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:

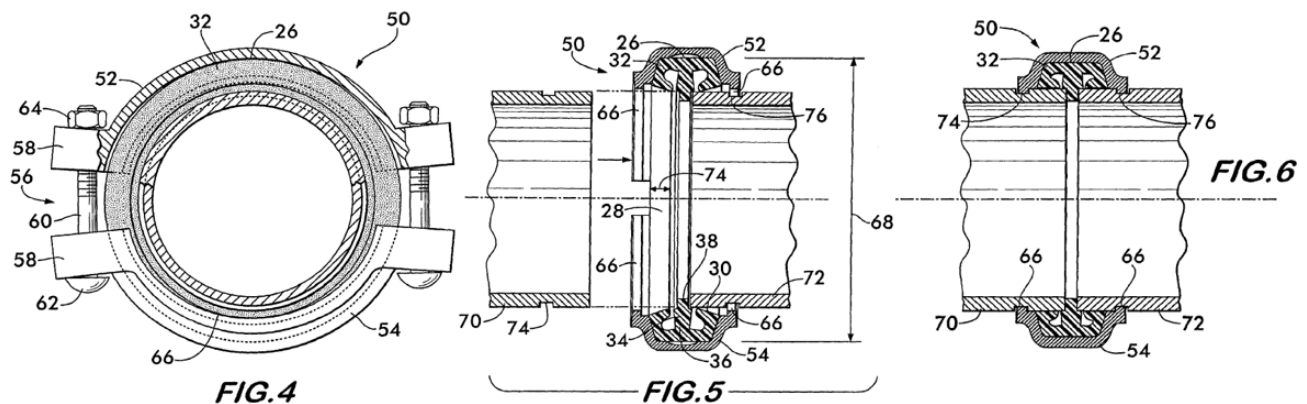


Figure 4 is an axial cross sectional view of one embodiment of the '799 patent coupling; Figures 5 and 6 depict longitudinal sectional views of the same coupling. *Id.* at 3:18–21. Figure 4 shows coupling 50 in a preassembled state, with segments 52 and 54 connected to one another by adjustably tightenable 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 of the challenged claims 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

Petitioner contends that the challenged claims are unpatentable based on the following specific grounds (Pet. 13, 16–56):

Reference[s]	Basis	Claim[s] Challenged
Lewis ¹	§ 102(b)	1–5 and 18
Lewis	§ 103	1–6, 12, 17, and 18
Lewis and Blakely ²	§ 103	6, 12, and 16
Lewis, Blakely, and Wolfsdorf ³	§ 103	7–11 and 13–15

II. ANALYSIS

A. Claim Construction

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

¹ UK Pat. Appl. GB 2211255 A (June 28, 1989) (Ex. 1102).

² US 3,351,352 (Nov. 7, 1967) (Ex. 1103).

³ US 6,312,025 B1 (Nov. 6, 2001) (Ex. 1104).

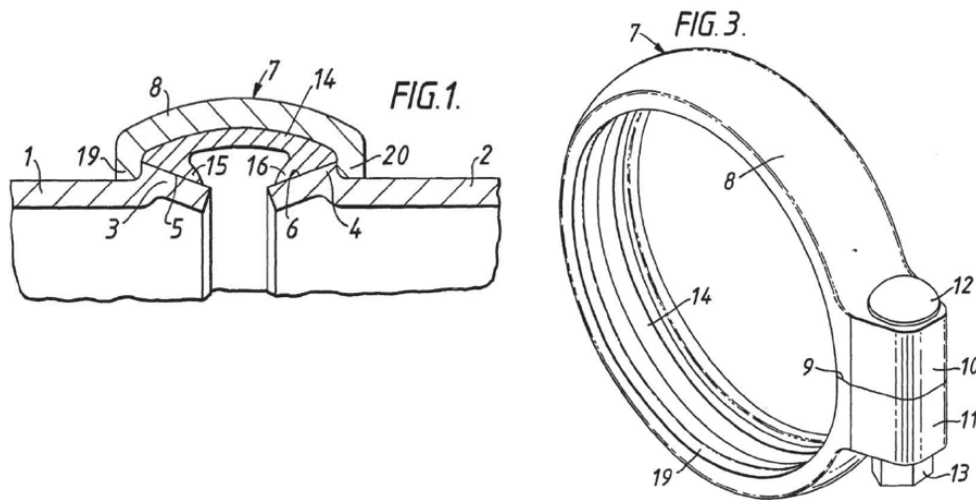
B. Claims 1–5 and 18—Anticipation by Lewis

Petitioner alleges that Lewis anticipates claims 1–5 and 18. Pet. 16–35. Patent Owner opposes. Prelim. Resp. 6–13.

1. Lewis

Lewis discloses a coupling for connecting two pipes. Ex. 1102, 3:5–6. The coupling comprises an annular, axially segmented sleeve-like housing split by at least one axially extending slit and having inwardly, radially extending end walls that fit behind a shoulder or within a groove formed at the end of each of the pipes to be connected. *Id.* at 3:7–15. An annular seal ring or gasket is located between the housing and the ends of the pipes. *Id.* at 3:16–18.

Figures 1 and 3, reproduced below, depict a sectional elevation view and an isometric view, respectively, of Lewis' coupling:

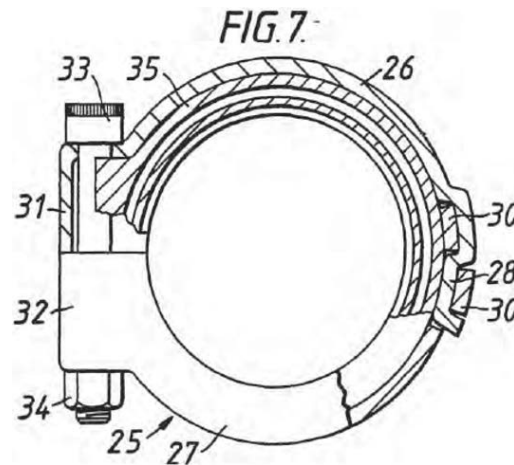


As shown in Figures 1 and 3, coupling 7 includes annular sleeve-like housing 8 and seal ring 14. *Id.* at 7:13–14. In this embodiment, the housing is a single segment split by a single axially extending slit 9. *Id.* at 7:15–17, Fig. 3.

Housing 8 has protrusion or shoulder 19, 20 extending radially inwardly at each end. *Id.* at 7:17–21. Lugs 10, 11 are provided on housing 8, one on each side of axial slit 9. *Id.* at 7:22–23. The lugs receive fastener means, such as bolt 12 and nut 13. *Id.* at 7:23–24.

Seal ring 14, having sealing lips 15, 16, is positioned within housing 8 so as to abut against the pipes when the coupling is fully tightened. *Id.* at 8:5–17, Fig. 1. A variation of the seal ring, illustrated in Figure 11, includes center rib 42. *Id.* at 11:25–12:1. “This may be a solid circumferential rib, or may be formed of a plurality of projections displaced uniformly around the inner surface of the gasket.” *Id.* at 12:1–3.

For larger sized pipes, a plurality of housing segments and a plurality of fastening means—e.g., nuts and bolts fitted in lugs adjacent each side of the slit, or a latch arrangement—may be used. *Id.* at 5:8–14. Figure 7, reproduced below, depicts a coupling with two segments:



As depicted in Figure 7, housing 25 is comprised of segments 26, 27 connected together at one side by a latch comprising hook-like protrusion 28 at one end of segment 26, engaged within slots 29 and ribs 30 at the opposed end of segment 27. *Id.* at 9:20–27. The segments are connected at the other

end by bolt 33 and nut 34 passing through lugs 31, 32 located at opposed ends of segments 26, 27. *Id.* at 10:1–5.

Lewis discloses the method of assembling the coupling to the pipes:

The coupling 7 from which the joint of Figure 1 is assembled may be supplied to the user in a pre-assembled condition with the sealing ring 14 located within the housing 8, and with the nut 13 and bolt 12 fastenings loosely positioned. In this condition, one pipe 1 can be pushed into the coupling 7 until shoulder 19 of the housing is behind the shoulder 3 on the pipe and the appropriate sealing lip 15 of the sealing ring is in contact with the tapered portion 5 of the pipe ends. The second pipe 2 is then inserted into the open end of the coupling 7 again until its shoulder 4 is fully in position behind the shoulder 20 of the housing. In this condition, the sealing ring 14 is in direct contact with both pipe ends within the housing. The nut and bolt fastening 12, 13 is then tightened until the lugs 10, 11 of the housing are in contact with each other so that the axial slit 9 is closed.

Id. at 8:21–9:10.

2. Analysis

Petitioner contends that Lewis anticipates claims 1–5 and 18. Pet. 18–35. For example, with respect to the limitation in claim 1, “said coupling comprising: a plurality of segments joined end to end,” Petitioner asserts that Lewis’ coupling includes an annular housing that is split by “at least one” axially extending slit. Pet. 18 (citing Ex. 1102, Abstract, 15:26–16:1). Petitioner further notes Lewis’ disclosure that its coupling can include “a plurality of segments and fastening means.” *Id.* at 18–19 (citing Ex. 1102, 5:12–14; Ex. 1105 ¶ 48).

For the limitation “said segments having adjustably tightenable connection members for drawing said segments toward said pipe elements,” Petitioner states that “Lewis describes adjustably tightenable connection

members in the form of ‘fastener means comprising a bolt 12 and a nut 13’ . . . that can be tightened until lugs 10, 11 are in contact with each other.” *Id.* at 20–21 (citing Ex. 1102, 7:22–24, 9:7–10, Figs. 1, 3).

Petitioner further notes that “Lewis’ coupling can include a plurality of segments and a plurality of corresponding fastener means.” *Id.* at 21 (citing Ex. 1102, 5:12–14; Ex. 1105 ¶¶ 51–52).

For the limitation “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 asserts that “Lewis discloses that the housing and the sealing ring have a matching geometry . . . and therefor mutually support one another as the pipes are inserted into the pre-assembled coupling.” *Id.* at 24 (citing Ex. 1102, 5:15–21, 15:17–20, Fig. 1). According to Petitioner, “[w]hen the housing includes multiple segments and multiple fastening elements that are loosely positioned in a preassembled state (*id.* at 5:12–14), the sealing ring’s outer diameter supports the housing segments that are positioned on, and surround the ring.” *Id.*

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,”⁴ Petitioner contends that when the coupling is in the preassembled condition, the “housing segments are supported on the ring that is within the housing, and the lugs of the coupling and the corresponding housing segments are joined end to end in a spaced-apart relation because the nuts and bolts fastenings

⁴ The latter two limitations may hereinafter be referred to as the “supporting” limitations.

are initially loosely positioned.” *Id.* at 25 (citing Ex. 1102, Abstract, 5:12–14, 8:21–25, Fig. 1). Petitioner notes that after pipe ends are inserted into the preassembled coupling, “the segments are adjustably tightened by tightening the nuts and bolts, which causes the spaced apart housing segment end (e.g., at slit 9 in Fig. 1) to come into contact with one another.” *Id.* at 25–26 (citing Ex. 1102, 9:7–10). Petitioner is of the view that “tightening the adjustable fasteners (e.g., the nuts and bolts) of Lewis causes the housing shoulders (e.g., elements 19 and 20 in Fig. 1) to be drawn further toward, and engage, the pipe elements.” *Id.* at 26 (citing Ex. 1105 ¶¶ 60–62).

Patent Owner disagrees that Lewis anticipates any of the challenged claims. Specifically, Patent Owner asserts that Lewis does not disclose the “supporting” limitations. First, Patent Owner notes that the coupling having a one-piece housing, as depicted in Figures 1–5, does not have a plurality of coupling segments, let alone coupling segments “attached to one another” or “supported on said ring in spaced apart relation,” as these limitations require. Prelim. Resp. 6. Second, Patent Owner contends that Lewis does not disclose that its sealing ring or gasket supports the coupling housing, whether or not the housing has one or multiple pieces. *Id.* at 6–7. Rather, according to Patent Owner, Lewis discloses that the coupling housing supports the sealing ring. *Id.* at 7 (citing Ex. 1102, 4:24–26; Ex. 2001 ¶ 25). Patent Owner asserts that the excerpts from Lewis on which Petitioner relies “at most . . . disclose that the housings and seals of Lewis have complementary shapes,” which does not necessarily mean that one has to support the other. *Id.* at 11 (citing Pet. 23–26; Ex. 1105 ¶¶ 60–62). Patent Owner further contends that Lewis’ one-piece housing is “self-supporting, i.e., it holds its shape without support from any other coupling component,”

and that the gasket that Lewis uses in the two-piece-housing coupling cannot support the coupling segments. *Id.* at 7–8.

“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). We have examined the record, and 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 Lewis anticipates any of claims 1–5 and 18. Specifically, we are not persuaded that Petitioner is reasonably likely to prevail in showing that Lewis discloses, either expressly or inherently, the “supporting” limitations.

First, Petitioner does not identify, and we do not find, any express disclosure in Lewis 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, Lewis’ Specification can be read to disclose the opposite, i.e., that the housing supports the ring. For example, Lewis discloses “an annular sealing gasket located within the housing and supported by the inner peripheral wall thereof.” Ex. 1102, 4:24–26.

Second, we do not find evidence sufficient to establish that these limitations are inherent in Lewis. “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). We agree with Patent Owner that merely because Lewis’ housing and sealing ring have a “matching geometry” does not necessarily mean that they “mutually support one another.”

C. Claims 1–5 and 18—Obviousness over Lewis

Petitioner contends that “[t]o the extent that the relied upon sections of Lewis 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 Lewis.” Pet. 35–36. 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 Lewis discloses the “supporting” limitations. Accordingly, we are not persuaded that the challenged claims would have been obvious over Lewis.

D. Claims 6, 12, and 16—Obviousness over Lewis and Blakely

Claims 6, 12, and 16 depend from claim 1, and, *inter alia*, additionally require that the sealing member have a tongue. Petitioner contends that these claims would have been obvious over Lewis and Blakely. Pet. 42–47. But Petitioner does not rely on Blakely to teach the “supporting” limitations. Therefore, Blakely cannot cure the defect noted above with respect to Lewis. Accordingly, we determine that Petitioner has not shown a reasonable likelihood of prevailing with respect to this proposed ground.

E. Claims 7–11 and 13–15—Obviousness over Lewis, Blakely, and Wolfsdorf

Claims 7–11 and 13–15 depend from claim 1, and recite additional limitations concerning the claimed sealing member. Petitioner contends that these claims would have been obvious over Lewis, Blakely, and Wolfsdorf. Pet. 47–53. But Petitioner does not rely on either Blakely or Wolfsdorf to teach the “supporting” limitations. Therefore, neither of these references can cure the defect noted in Lewis noted above. Accordingly, we determine that Petitioner has not shown a reasonable likelihood of prevailing with respect to this proposed ground.

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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