

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMMSCOPE TECHNOLOGIES LLC.,
Petitioner,

v.

BELDEN INC.,
Patent Owner.

IPR2023-01061
Patent 6,998,537 B2

Before KRISTINA M. KALAN, KIMBERLY McGRAW, and
SHARON FENICK, *Administrative Patent Judges*.

McGRAW, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

CommScope Technologies LLC (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 19, 20, and 22 of U.S. Patent No. 6,988,537 B2 (Ex. 1004, “the ’537 patent”). Belden, Inc. (“Patent Owner”) filed a Preliminary Response to the Petition (Paper 6, “Prelim. Resp.”). Petitioner then filed an authorized “Paper Identifying Inconsistencies” (Paper 7), in response to which Patent Owner filed an authorized Sur-reply (Paper 9).

To institute an *inter partes* review, we must determine that the information presented in the Petition shows “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). For the reasons discussed below, after considering the parties’ submissions and the evidence of record, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to at least one claim of the ’537 patent. Thus, we institute an *inter partes* review of all challenged claims of the ’537 patent on all grounds asserted in the Petition. *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (stating that a decision to institute is “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”).

A. Related Proceedings

The parties identify *Belden, Inc. v. CommScope, Inc.*, Case No. 1:22-cv-00783-RGA (D. Del.) (“the District Court Proceeding”), which is currently pending and involves the challenged ’537 patent as well as three other patents, including U.S. Patent No. 6,570,095 B2 (“the ’095 patent”), as related matters. Pet. 11, 70; Paper 4 § II.

Petitioner also identifies *Belden Techs., Inc. et al. v. Superior Essex Inc. et al.*, Case No. 1:08-cv-00063-SLR (D. Del.), which has since settled, as involving the '537 patent and the related '095 patent and U.S. Patent No. 7,179,999 (“the '999 patent”). Pet. 11; Paper 4 § II. The parties also state that the '537 patent, the '095 patent, and the '999 patent were subject to patent reexamination proceedings, now terminated following settlement. Pet. 11, 70; Paper 4 § II

Petitioner also states that it is filing two other petitions for *inter partes* review of two patents asserted in District Court Proceeding. Pet. 70. Patent Owner identifies IPR2023-01062 involving the '095 patent as a related matter. Paper 4 § II.

B. Real Parties-In-Interest

The parties identify themselves as the real parties-in-interest. Pet. 70; Paper 4 § 1. Petitioner additionally identifies CommScope, Inc. of North Carolina, CommScope, Inc., and CommScope Holding Company as real parties-in-interest. Pet. 70.

C. The '537 Patent

The '537 patent, titled “Multi-Pair Data Cable with Configurable Core Filling and Pair Separation,” relates to “high speed data communications cables having a light-weight, configurable core-refilling isolation pair separator that provides geometrical separation between the twisted pairs of insulated conductors.” Ex. 1001, code (54), 1:21–25. The '537 patent describes “a substantially flat configurable, highly flexible, core-filling, dielectric separator to provide twisted pair separation for the cable.” *Id.* at 3:12–14. Figure 4 of the '537 patent is reproduced below.

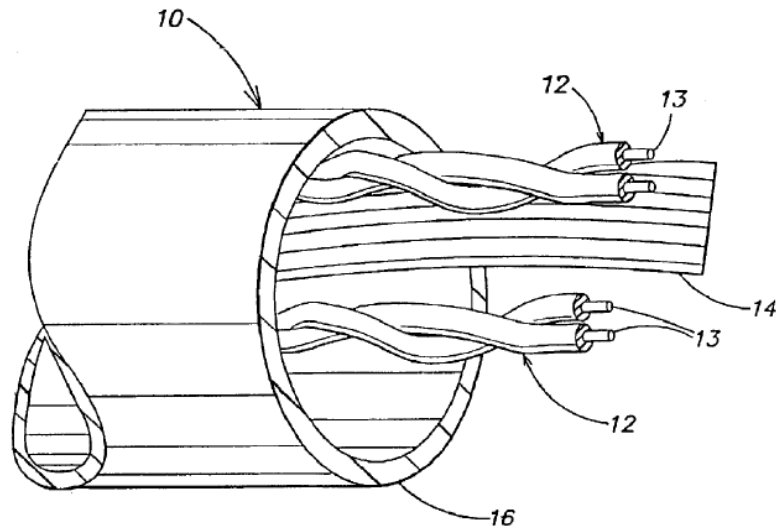


Figure 4 is a perspective view of data communications cable 10, showing twisted pairs 12 of insulated conductors 13, twisted pairs 12 separated by low dielectric constant, low dissipation factor, polymer pair separator 14, all encased within jacket assembly 16. *Id.* at 4:28–34. “The configurable pair separator 14 runs along a longitudinal length of the cable, and is configured such that the twisted pairs are disposed within channels or grooves 15 of the pair separator along the length of the cable.” *Id.* at 4:38–41. According to the ’537 patent, “the pair separator improves the crosstalk isolation between the twisted pairs by providing desired spacing between the twisted pairs.” *Id.* at 4:48–51. “[T]he configurable pair separator is preferably a flame-retardant, low-dielectric constant, low-dissipation factor, foamed polymer tape, such as, for example, a foamed flame retardant, cellular polyolefin or fluoropolymer like NEPTC PP500 ‘SuperBulk’, a foamed fluorinated ethylene propylene (FEP) or a foamed polyvinyl chloride (PVC).” *Id.* at 4:60–66.

Figure 5, reproduced below, is a cross-sectional view of the cable of Figure 4.

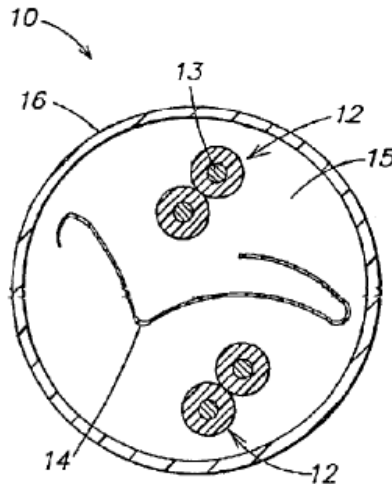


Figure 5 shows the same elements as Figure 4 from a cross-sectional perspective. *Id.* at 3:51–52.

D. Illustrative Claim

Claim 19, the only challenged independent claim, is reproduced below with bracketed annotations corresponding to the annotations in the Petition. Pet. 72.

19. [19.pre] An unshielded communications cable comprising:
- [19.a] a plurality of twisted pairs of insulated conductors comprising a first twisted pair of insulated conductors and a second twisted pair of insulated conductors,
- [19.b] a substantially flat configurable dielectric separator that consists of non-conductive, dielectric materials disposed between the plurality of twisted pairs of conductors that separates the first twisted pair of insulated conductors from the second twisted pair of insulated conductors, and
- [19.c] a jacket enclosing the plurality of twisted pairs of insulated conductors and the configurable dielectric separator,

[19.d] wherein the substantially flat configurable dielectric separator includes a foamed polymer.

Ex. 1004, 10:39–54 (bracketed material added).

E. The Asserted Grounds of Unpatentability

Petitioner contends claims 19, 20, and 22 of the '537 patent are unpatentable on the following grounds. Pet. 3.

Ground	References	35 U.S.C. §	Claim(s) Challenged
1	Beggs, ¹ Jachimowicz ^{2, 3}	103(a)	19
2	Beggs, Jachimowicz, Gingue ⁴	103(a)	20, 22
3	Yanagita, ⁵ Jachimowicz	103(a)	19 ⁶
4	Yanagita, Jachimowicz, Gingue	103(a)	20, 22

¹ Beggs, et al., US Patent No. 4,755,629 (issued July 5, 1988) (Ex. 1015, “Beggs”).

² Jachimowicz, et al., US Patent No. 3,894,172 (issued July 8, 1975) (Ex. 1014, “Jachimowicz”).

³ For each ground, Petitioner also indicates the reference includes “the knowledge of a POSITA.” Pet. 3.

⁴ Gingue et al., US Patent No. 5,670,748 (issued Sept. 23, 1997) (Ex. 1013, “Gingue”).

⁵ Yanagita, Japanese Patent Application Pub. No. S43-15470 (published June 28, 1968) (foreign language original, Ex. 1056; certified English translation, Ex. 1012). Petitioner also provides an uncertified English translation (Ex. 1055) that was before the Office during the reexamination of the '057 patent. Unless indicated otherwise, all citations to “Yanagita” are to the certified English translation (Ex. 1012).

⁶ To the extent that the grounds identified in the Petition’s Headings differ from the Petition’s discussions, we rely on the Petition’s discussions.

Ground	References	35 U.S.C. §	Claim(s) Challenged
5	GmbH-866, ⁷ Roberts, ⁸ Gingue, Jachimowicz	103(a)	19, 20, 22

In support of its unpatentability arguments, Petitioner relies on the declaration of Kenneth Cornelison (Ex. 1007). Patent Owner relies on the declaration of Dr. Charles A. Eldering (Ex. 2001).

II. ANALYSIS

A. *Level of Ordinary Skill in the Art*

We consider the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art (sometimes abbreviated herein as “POSITA”). *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Petitioner argues that a “person of ordinary skill in the art of the ’537 patent would have had a bachelor’s degree in electrical engineering and a minimum of 3–4 years of industry experience in connection with designing, manufacturing, and testing of twisted-pair data cables.” Pet. 14 (citing Ex. 1007 ¶ 12). Petitioner also argues an “individual with a master’s degree in electrical engineering would require less industry experience (e.g., 1–2 years).” *Id.* (citing Ex. 1007 ¶ 12). Patent Owner does not dispute this proposed definition. *See generally* Prelim. Resp.

For the purposes of this Decision, we adopt Petitioner’s proposal, because we find Petitioner’s statement of the level of ordinary skill in the art adequate and supported on this record. The level of ordinary skill in the art

⁷ NK Networks GmbH, German Patent No. DE 29719866 U1 (original in Ex. 1011) (published Feb. 5, 1998) (Ex. 1010, “GmbH-866”).

⁸ Roberts, et al., US Patent No. 3,622,683 (issued Nov. 23, 1971) (Ex. 1009, “Roberts”).

also appears to be reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

B. Claim Construction

We interpret a claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. [§] 282(b).” 37 C.F.R. § 42.100(b). Under this standard, we construe the claim “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.*

“[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention” and “after reading the entire patent” and its prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313, 1321 (Fed. Cir. 2005) (en banc). A claim term, however, may not receive its plain and ordinary meaning if the patentee acted as his own lexicographer and clearly set forth a definition of the disputed term in either the specification or the prosecution history. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002). 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).

Petitioner proposes constructions for “unshielded communications cable”, “substantially flat,” and “configurable dielectric separator.” Pet. 15–20. Patent Owner proposes construction of “twisted pairs” of insulated conductors. Prelim. Resp. 12–16. As explained below, on the present record, we provide a preliminary construction of “substantially flat,” “configurable dielectric separator,” and “twisted pairs,” and determine that

we need not expressly construe any other claim term at this stage of the proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)) (holding that only claim terms in controversy need to be construed, and only to the extent necessary to resolve the controversy).

1. “*unshielded communications cable*”

The preamble of claim 19 recites “[a]n unshielded communications cable comprising.” Petitioner asserts that the preamble merely states an intended purpose and is not limiting. Pet. 15–17. Petitioner further asserts that although the term “unshielded” was added through amendment, “the same response amended the body of claim 19 to add the substantive limitation, specifying that separator ‘consists of non-conductive, dielectrical materials’ in order to distinguish art having a separator of shielding tape formed of metal and plastic laminate. Pet. 16 (citing Ex. 1043, 8). We determine that no construction of this term is required at this stage of the proceedings to resolve any issues in dispute.

2. “*substantially flat*”

Claim 19 recites “substantially flat configurable dielectric separator.” Petitioner asserts that the ordinary and customary meaning of a “substantially flat” separator in view of the intrinsic record is a separator that is a substantially flat member prior to being formed into the cable assembly and that the term does not require that the separator be substantially flat (i.e., free of any bends or folds) in the finished cable. Pet. 17 (citing Ex. 1007 ¶ 65). Petitioner asserts that this construction is consistent with the specification and the construction adopted by the Patent Office during reexamination and by the district court. Pet. 17–20. Patent

Owner does not dispute this construction. *See generally* Prelim. Resp. For the purposes of this Decision, we adopt Petitioner’s uncontested proposed construction of this term, namely, a separator that is a substantially flat member prior to being formed into the cable assembly; and further preliminarily determine that the term does not require that the separator be substantially flat (i.e., free of any bends or folds) in the finished cable.

3. “*configurable dielectric separator*”

Claim 19 recites a “configurable dielectric separator.” Petitioner asserts that the ordinary and customary meaning of a “configurable” separator in view of the intrinsic record is “flexible enough to be formed or shaped in the course of making the cable.” Pet. 20 (citing Ex. 1007 ¶ 70). Petitioner further asserts that this construction is consistent with construction adopted by the district court. *Id.* (citing Ex. 1052; Ex. 1007 ¶¶ 70–74). Patent Owner does not dispute this construction. *See generally* Prelim. Resp. For the purposes of this Decision, we adopt Petitioner’s proposed construction of this term, namely, that “configurable” means “flexible enough to be formed or shaped in the course of making the cable.”

4. “*twisted pair*”

Claim 19 recites a “plurality of twisted pairs of insulated conductors.” Petitioner does not provide an express definition of this term, but does state that it applies the “plain and ordinary” meaning of the term and that “stranded” and “twisted” are used synonymously in the industry. Pet. 40 (citing Ex. 1007 ¶ 131).

Patent Owner identifies three definitions for this term. First, Patent Owner asserts that the plain and ordinary meaning of the claimed “‘twisted pair[s]’ that are separated by a dielectric pair separator” is “*two* insulated conductors *twisted together*” as shown in Figure 4 of the ’537 patent,

reproduced below with Patent Owner’s annotations. Prelim. Resp. 16 (citing Ex. 2001 ¶ 45) (emphasis in original).

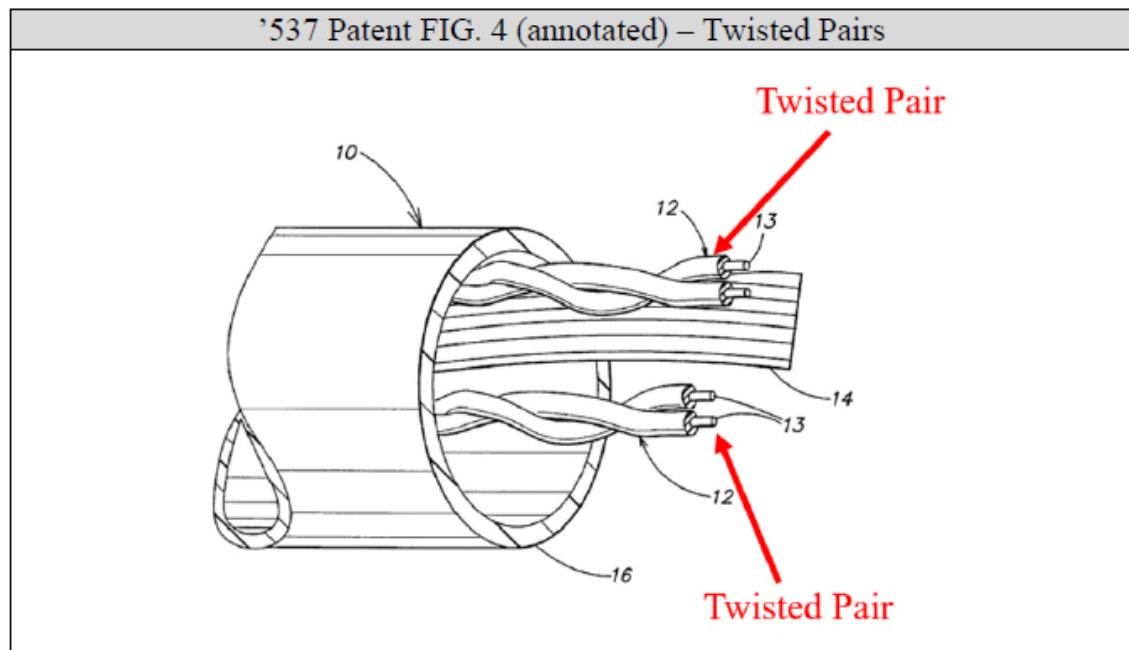


Figure 4 of the '537 patent, with Patent Owner’s annotations of “Twisted Pair,” is reproduced above.

Second, Patent Owner provides a definition from a technical dictionary of “twisted pair,” namely a “twisted pair comprises *two copper* conductors, separately insulated by a dielectric material and smoothly *twisted in a helix* with a constant pitch or distance to make a 360° twist.” *Id.* at 14 (citing Ex. 2002, 503; Ex. 2001 ¶ 43) (emphasis in original).

Third, Patent Owner states that the '537 patent defines the term to further require that the pair “*form a balanced transmission line.*” Prelim. Resp. 14–15 (emphasis added); Prelim. Resp. 12–13 (citing Ex. 1004, 1:28–31); *see also* Ex. 1004, 1:28–31 (“High-speed data communications media in current usage include pairs of insulated conductors twisted together to form a balanced transmission line. Such pairs of insulated conductors are referred to herein as ‘twisted pairs’.”).

In its Preliminary Response, Patent Owner does not request the Board to apply any of these definitions, but states that it “reserves the right” to argue that “twisted pairs” should be construed according to the third definition (“i.e., further requiring a balanced transmission line”). *Id.* at 15 n.4. Patent Owner does not provide a meaning for the term a “balanced transmission line.”

For the purposes of this decision, based on the present record, we construe the term “twisted pair of insulated conductors” as a “pair of insulated conductors that are twisted together” as this construction appears consistent with the plain and ordinary meaning of the term. The parties may propose and support constructions of this term during trial.

C. Principles of Law

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

A claim is unpatentable as obvious under § 103(a) if the differences between the claimed subject matter 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 skill in the art; and (4) when in evidence,⁹ objective indicia of non-obviousness (i.e., secondary considerations). *Graham*, 383 U.S. at 17–18. “To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

We analyze the asserted grounds of unpatentability in accordance with these principles to determine whether Petitioner has met their burden to establish a reasonable likelihood of success at trial.

D. Beggs- and Jachimowicz-based Grounds (Grounds 1 and 2)

Petitioner argues that claim 19 would have been obvious over Beggs and Jachimowicz (Pet. 21–32) and that dependent claims 20 and 22 would have been obvious over Beggs, Jachimowicz, and Gingue (Pet. 32–38). Patent Owner opposes. Prelim. Resp. 35–50. Having considered the parties’ contentions and supporting evidence, we determine that Petitioner has established a reasonable likelihood of showing that claims 19, 20, and 22 would have been obvious over the asserted art.

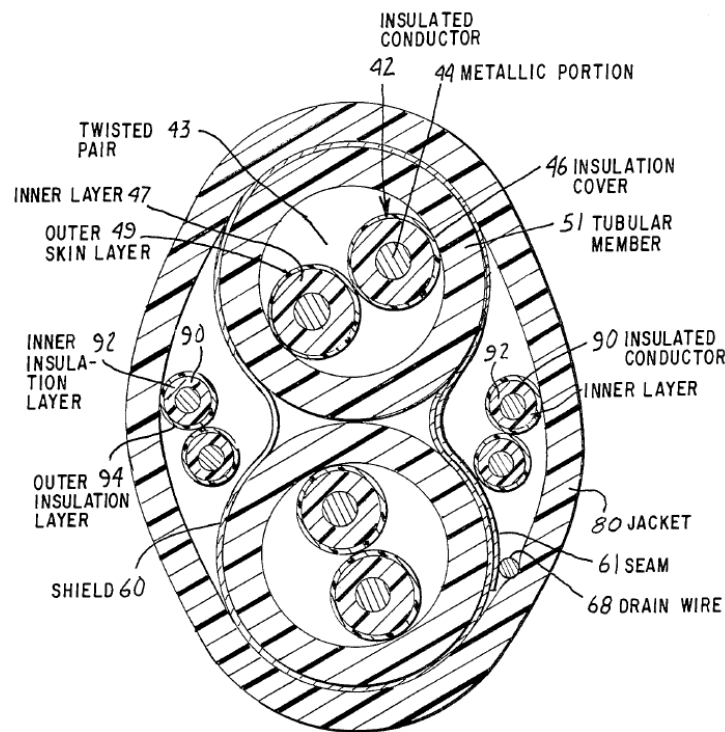
1. Beggs (Ex. 1015)

Beggs is a U.S. Patent titled “Local Area Network Cable.” Ex. 1015, code (54). Beggs describes a need for “a cable which is compatible with balanced or unbalanced mode transmission equipment and which can be

⁹ At this stage of the proceeding, neither party has provided any evidence or argument regarding objective indicia of non-obviousness.

readily installed, fits easily into building architectures, and is safe and durable.” *Id.* at 3:26–30. Beggs discloses a “cable (20) which is particularly suited to the transmission of substantially error-free data at relatively high rates over relatively long distances includes at least two pairs of individually insulated conductors (42-43).” *Id.* at code (57).

Beggs discloses cables comprising insulated, twisted pairs of conductors, each pair enclosed in a “tubular member.” *Id.* at 5:51–55. Figure 5, reproduced below, shows a cross-sectional diagram of one embodiment of Beggs’ cable.



Beggs’ Figure 5 shows twisted pair 43, made up of a pair of insulated conductors 42 (each including metallic portion 44, inner layer 47, and outer layer 49), with each pair surrounded by tubular member 51 (a polyvinyl chloride composition) around the multiple twisted pairs. *Id.* at 5:33–55.

Beggs portrays another embodiment in Figure 6, reproduced below, showing a cross-sectional view of part of Beggs’ cable.

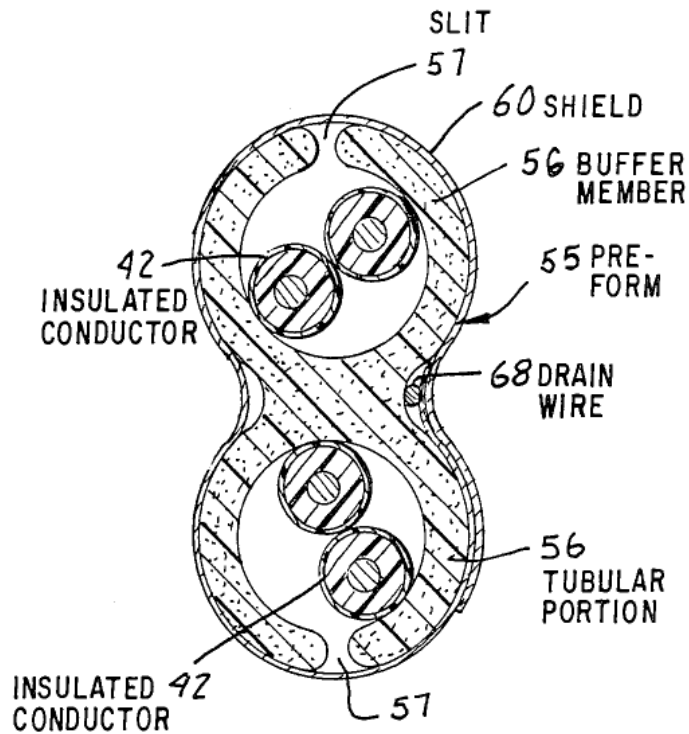


Figure 6 shows pairs of insulated conductors 42 encased in “preform 55.” *Id.* at 5:65–6:1. “The preform may be comprised of a solid or expanded polyvinyl chloride plastic material.” *Id.* at 6:1–3.

Another embodiment is shown in Figure 7, reproduced below, in which tubular member 51 is replaced by a “preform 58.”

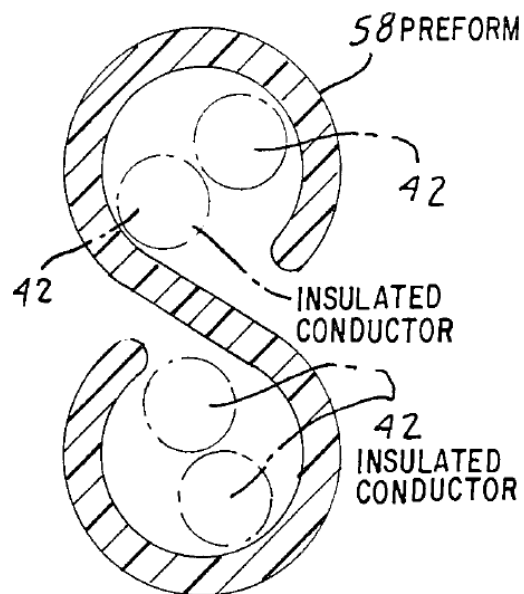


Figure 7 is a cross-sectional view of part of Beggs' cable, showing two twisted pairs of insulated conductors surrounded by "preform 58." *Id.* at 6:9–11. Beggs also discloses that "the S-shaped preform 58 in FIG. 7 may be replaced with a tape which is made of a dielectric material and which is wrapped about the conductor pairs to cause each pair to be enclosed substantially in a dielectric portion of the buffer system." *Id.* at 6:52–56.

2. *Jachimowicz (Ex. 1014)*

Jachimowicz is a U.S. Patent titled "Multicable Telephone Cable in a Common Sheath." Ex. 1014, code (54). Jachimowicz relates to a "communication cable for telephone use [which] has comparatively small numbers of pairs with the conductors of each pair twisted together with different lays and the pairs are assembled into shielded units." *Id.* at code (57).

Jachimowicz addresses problems in telephone cable bundles of frequency-related interference between circuits. *Id.* at 1:6–16. To address this, Jachimowicz discloses:

The cable of this invention consists of a multitude of identical small cables twisted together to form one cable core. Over the cable core there is one common cable sheath of a conventional design. Each of the electrically separate small cables consist of a bundle of 12 transmission pairs with possibly one pair added for control and supervisory circuit. The pairs of the bundle (unit) have each a pair lay (length of pair twist) difference from lays of remaining pairs in the unit.

Id. at 1:54–63. Figure 1, reproduced below, shows a cross-section of one of its small cables.

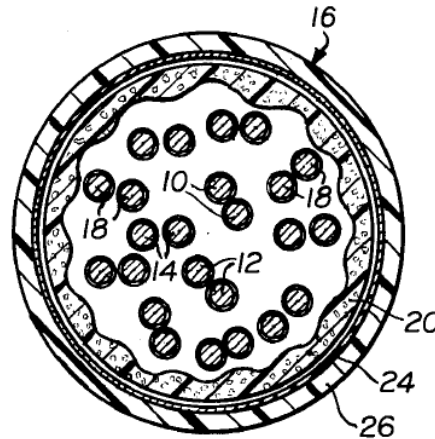


Figure 1 shows cable unit 16, comprising pairs of insulated conductors 10, 12, 14, and 18, foamed polyethylene 20, metal shield 24, and plastic insulating tape 26. *Id.* at 2:28–66. Jachimowicz describes:

To lock the pairs 10, 11, 14 and 18 together and prevent lay distortion when the bundle is handled in manufacturing processes or at installation, a thin jacke[t] of foamed polyethylene 20 is extruded over the bundle. The pairs can be held together in the bundle in other ways, if desired, as by applying a tape made of foamed thermoplastic supported by a film such as Mylar or polypropylene, or other material.

Id. at 2:46–54.

3. *Gingue* (Ex. 1013)

Gingue is a U.S. Patent titled “Flame Retardant and Smoke Suppressant Composite Electrical Insulation, Insulated Electrical Conductors and Jacketed Plenum Cable Formed Therefrom.” Ex. 1013, code (54). Gingue “relates to insulated electrical conductors and jacketed electrical cables,” a “composite electrical insulation exhibiting reduced flame spread, reduced smoke evolution, and favorable electrical properties,” and “insulated electrical conductors and jacketed plenum cable formed from the flame retardant and smoke suppressant composite insulation.” *Id.* at 1:7–15.

Gingue describes “concerns that flame and smoke could travel along the extent of a plenum area in the event the electrical conductors and cable were involved in a fire,” and “a standard to reduce the amount of flammable material incorporated into insulated electrical conductors and jacketed cables.” *Id.* at 1:34–41. Gingue also describes the additional need for “enhanced electrical properties for the transmission of voice and data over twisted pair cables.” *Id.* at 3:26–30. Gingue further describes that “the electrical performance of an insulating material is enhanced by foaming or expanding the corresponding solid material,” which “decreases the amount of flammable material employed for a given volume of material.” *Id.* at 3:20–24.

Figure 2, reproduced below, shows a sectional view of a 4-pair jacketed electrical cable.

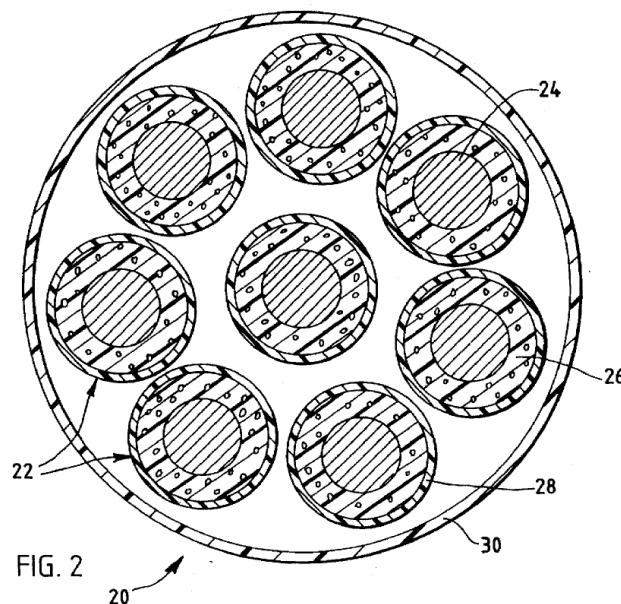


Figure 2 illustrates a jacketed electrical cable 20, where “each of insulated electrical conductors 22 comprises a centrally disposed electrical conductor 24, a foamed polymeric inner layer 26 surrounding the central conductor 24, and an outer layer 28 comprising a halogenated polymeric

material and at least one flame retardant and smoke suppressant additive.”
Id. at 6:45–50.

4. *Analysis for Claim 19*

a) *Preamble and Claim elements 19[a] and 19[c]*

Petitioner asserts that Beggs’ disclosure of a cable for transmitting data streams comprising a “plurality of . . . twisted pair[s] of individually insulated conductors” teaches the communications cable having “plurality of twisted pairs of insulated conductors comprising a first twisted pair of insulated conductors and a second twisted pair of insulated conductors” as recited in the preamble and claim element 19[a]. Pet. 23–24 (citing Ex. 1015, 3:34–42, 5:33–35, cl. 1, Figs. 1, 9A; Ex. 1007 ¶¶ 84–85)). Petitioner also asserts that Beggs’ cable has an outer jacket that comprises a polyvinyl chloride material teaches the “jacket enclosing the plurality of twisted pairs of insulated conductors and the configurable dielectric separator” as recited in claim element 19[c]. Pet. 32 (citing Ex. 1015, 8:7–12, 8:19–21; Ex. 1007 ¶¶ 79, 108). Other than asserting that Beggs does not teach twisted pairs, which we address below, Patent Owner does not dispute Petitioner’s assertions at this stage of the proceeding. *See generally* Prelim. Resp. We have reviewed Petitioner’s arguments and evidence and determine that Petitioner sufficiently shows Beggs teaches the subject matter recited in the preamble¹⁰ and claim elements 19[a] and 19[c].

b) *Claim elements 19[b] and 19[d]*

Claim element 19[b] is directed to a “a substantially flat configurable dielectric separator” that consists of “non-conductive, dielectric materials

¹⁰ Because Petitioner sufficiently shows Beggs teaches the subject matter recited in the preamble, we do not determine whether the preamble is limiting.

disposed between the plurality of twisted pairs of conductors that separates the first twisted pair of insulated conductors from the second twisted pair of insulated conductors.” Claim element 19[d] further requires that the separator “includes a foamed polymer.”

Petitioner asserts that the combination of Beggs and Jachimowicz teaches the separator as recited in claim elements 19[b] and [d]. Pet. 24–32. In particular, Petitioner asserts that, other than expressly disclosing that the separator consists of “multiple dielectric ‘materials’,” Beggs teaches all of the limitations recited in claim elements 19[b] and [d]. Pet. 27 (emphasis in original).

Petitioner asserts that Beggs teaches that the S-shaped preform 58 buffer shown in Figure 7 can be “replaced with a tape” that is made of a dielectric, non-conductive material. Pet. 24–25 (citing Ex. 1015, 5:33–35, 6:9–14, 6:52–56, Fig. 7, cl. 1; Ex. 1007 ¶¶ 86–107); *see also* Ex. 1015, 6:52–56 (stating the “S-shaped preform 58 in Fig. 7 may be replaced with a tape which is made of a dielectrical material and which is wrapped about the conductor pairs to cause each pair to be enclosed substantially in a dielectric portion of the buffer system”).

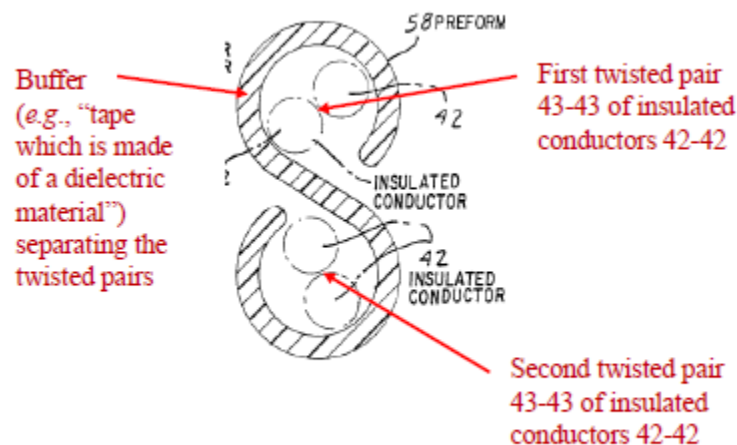


Figure 7 is a cross-sectional view of part of Beggs' cable, showing two twisted pairs of insulated conductors surrounded by "preform 58" with annotations added by Petitioner. Ex. 1015, 6:9–11; Pet. 24–25.

Petitioner asserts that a POSITA would understand that the "tape" disclosed by Beggs as an option for forming the buffer shown in Figure 7 would be flat and configurable into the S-shaped buffer shown in Fig. 7. Pet. 25–26 (citing Ex. 1015, 6:52–56; Ex. 1007 ¶ 88).

Petitioner further asserts Beggs teaches that its buffer may be comprised of a foamed polymer as required by claim element 19[d]. Pet. 26 (citing Ex. 1015, 6:1–3 (stating that preform 55 of Figure 6 may be comprised of expanded polyvinyl chloride plastic material (e.g., a foamed polymer)), claim 19; 5:60–63; Ex. 1007 ¶ 91. Petitioner asserts that a POSITA would have understood that Beggs teaching that the buffer may be comprised of a foamed polymer applies to any of the disclosed buffer embodiments, including S-shaped preform 58 of Figure 7. Pet. 26 (citing Ex. 1007 ¶ 91; Ex. 1015, claim 19 (claiming a buffer system of foamed PVC that is not limited to any particular buffer). Additionally, Petitioner states that it would have been obvious to make an S-shaped tape buffer embodiment from foamed polymer to provide the same benefits to an S-shaped buffer embodiment as were provided to buffer preform 55, and because the combination of Beggs and Jachimowicz teaches this limitation. Pet. 27 (citing Ex. 1007 ¶¶ 86–107).

Petitioner also asserts that Jachimowicz's non-conductive, foamed polymer tape comprising a film of Mylar teaches the separator comprised of multiple dielectric materials as recited in claim element 19[b] and the foamed polymer recited in claim element 19[d]. Pet. 27–28 (citing Ex. 1014, 2:46–59, Figs. 1, 2; Ex. 1007 ¶¶ 81, 93). Petitioner asserts this

tape is also substantially flat and configurable as required by claim element 19[b]. Pet. 28. Petitioner asserts that it would have been obvious to use Jachimowicz's plastic film-backed foamed polymer tape as the dielectric tape buffer of Beggs because of the advantages provided by Jachimowicz's tape, including improving mechanical characteristics of a cable, improving electrical performance by reducing capacitance, reducing crosstalk between twisted pairs on opposite sides of the separator, and improving flame resistance of the cable. Pet. 29–31.

Patent Owner asserts that Beggs does not disclose a “foamed polymer tape” because Beggs teaches that the disclosed buffer system can comprise *either* (1) a dielectric tape or (2) a foamed polymer preform, but does not suggest that the buffer system is a foamed polymer tape. Prelim. Resp. 36–40 (citing, *inter alia*, Ex. 2001 ¶¶ 105–109); *see also id.* at 37 (stating that although Beggs teaches that the S-shaped preform 58 of Figure 7 can be replaced with dielectric tape, Beggs does not teach that the tape is a foamed polymer). Patent Owner's arguments are not persuasive on this point. Petitioner provides sufficient evidence at this stage of the proceeding that a POSITA would have understood that any of Beggs' disclosed buffer embodiments, including an embodiment where the S-shaped preform 58 is replaced with a tape, can be comprised of a foamed polymer. Pet. 26–27; Ex. 1007 ¶ 91. Based on the present record, this understanding is confirmed by Beggs claim 19, which claims a buffer system comprised of cellular (i.e., foamed) PVC but does not limit the buffer to any particular shape. *See* Ex. 1015, claim 19; Ex. 1007 ¶ 91 (stating a POSITA would have known that expanded PVC and cellular PVC are and refer to foamed polymers).

Patent Owner also asserts Jachimowicz does not disclose substantially flat, foamed polymer tape that can be used as a twisted pair separator.

Prelim. Resp. 40–45. Patent Owner asserts that Petitioner fails to provide any evidence that Jachimowicz’s jacket is flat prior to being formed in the assembly, as required under Petitioner’s own claim construction. *Id.* at 40, 42 (citing Pet. 17). Patent Owner also asserts that a POSITA would have understood that Jachimowicz’s tape is undulated, and thus not substantially flat, prior to being formed. *Id.* at 40, 44 (citing Ex. 1014, 3:51–52, Fig. 1; Ex. 2001 ¶¶ 114–117). Patent Owner further asserts Jachimowicz’s foamed polymer tape is used as a “jacket” to rigidly bundle, or lock, conductors together and not as a twisted pair separator. Prelim. Resp. 40–42 (citing Ex. 1015, 2:46–53, 3:50–66, Fig. 1; Ex. 1007 ¶¶ 110–114). We have considered Patent Owner’s arguments and evidence to the contrary on these points, and although Patent Owner raises a number of issues, these issues are best resolved at trial on a full record. Petitioner sufficiently shows at this stage of the proceeding that a POSITA would have understood Jachimowicz’s tape to be substantially flat and configurable because it was commonly understood that a “tape” of insulating material such as that disclosed in Jachimowicz was both flat and configurable. Pet. 28 (citing Ex. 1007 ¶¶ 81, 93; Ex. 1014, 2:50–53).

Patent Owner also asserts that Petitioner fails to provide a reason to use Jachimowicz’s tape as the dielectric tape buffer in Beggs’ cable. Prelim. Resp. 45–49. We have considered Patent Owner’s arguments and evidence to the contrary on this point, including Patent Owner’s contention that many of Petitioner’s articulated reasons to use Jachimowicz’s tape relate to the advantages of *foamed* polymer tape over *non-foamed* tape, but that Beggs already disclosed a foam polymer (i.e., the S-shaped preform 58 of Figure 7) would provide the same advantages. *See* Prelim. Resp. 47–48. Petitioner, however, also sufficiently shows at this stage of the proceeding that a

POSITA would have been motivated to use Jachimowicz's plastic-backed foam tape to improve mechanical characteristics of Beggs' polymer layer, that these enhanced mechanical properties were known to be important in the communications cable applications, and would apply to Beggs foamed polymer layer. *See* Pet. 29 (Petitioner's Second argument, citing Ex. 1007 ¶ 98). In particular, Petitioner asserts that the enhanced mechanical properties of plastic-backed foam tape were known to be particular important in communications cable applications, where the cable (and thus the foamed polymer layer) was commonly subject to movement, stress, and strain, particularly during cable assembly. *Id.* Whether a POSITA would have understood that these mechanical benefits of Jachimowicz's plastic-backed foam tape would have improved Beggs' foamed polymer layer buffer (as asserted by Petitioner) or a POSITA would not have looked to Jachimowicz's plastic-backed foam tape because it lacks the required flexibility and ability to be stretched and wrapped around conductor pairs (as asserted by Patent Owner), is a matter best resolved on a full record.

Accordingly, Petitioner presents a reasonable likelihood of prevailing on its assertions that claim 19 would have been obvious over Beggs and Jachimowicz.

5. *Analysis of Claims 20 and 22*

Petitioner argues that claims 20 and 22 would have obvious over Beggs, Jachimowicz, and Gingue. Pet. 32–39. In particular, Petitioner asserts that Gingue teaches the limitations requiring the separator to be a flame-retardant, low-dielectric constant, foamed polymer tape recited in claims 20 and 22 and that it would have been obvious to provide the foamed polymer separator tape of the Beggs/Jachimowicz combination with these properties in view of the teachings of Gingue. *Id.* Patent Owner does not

dispute these particular assertions. We have reviewed Petitioner's arguments and evidence and determine that Petitioner has established a reasonable likelihood of prevailing on its assertions of obviousness of claims 20 and 22.

E. Yanagita- and Jachimowicz-based Grounds (Grounds 3 and 4)

Petitioner argues that claim 19 would have been obvious over Yanagita and Jachimowicz (Pet. 38–45) and that claims 20 and 22 would have been obvious over Yanagita, Jachimowicz, and Gingue (Pet. 45–47).

1. Yanagita (Ex. 1012)

Yanagita is a Japanese patent application publication titled “Alternatingly Twisted Cable,” which “relates to an alternatingly twisted cable that prevents twisting of a wire core from becoming undone.” Ex. 1012, 1.

Yanagita describes “alternatingly twisted cables,” where “a large number of strands of insulated wires or pairs thereof or quad strands, or units thereof, are twisted together so as to reverse the direction of twisting thereof with given periodicity.” *Id.* Yanagita states that “there is a shortcoming with this type of cable in that, when a tensile force is applied in the lengthwise direction of the cable core prior to application of the cable sheathing, in particular, the twisting of the cable core becomes undone.” *Id.*

To address this, Yanagita proposes:

an alternatingly twisted cable wherein a large number of insulated wire strands, or that wherein the insulated wire strands are twisted together, are laid, while twisting along the surfaces, along both surfaces of a core material that is made by forming a plate-shaped body so that the direction of the surface thereof gradually changes in a reciprocatingly twisted shape.

Id. A portion of this system is depicted in Figure 2, reproduced below.

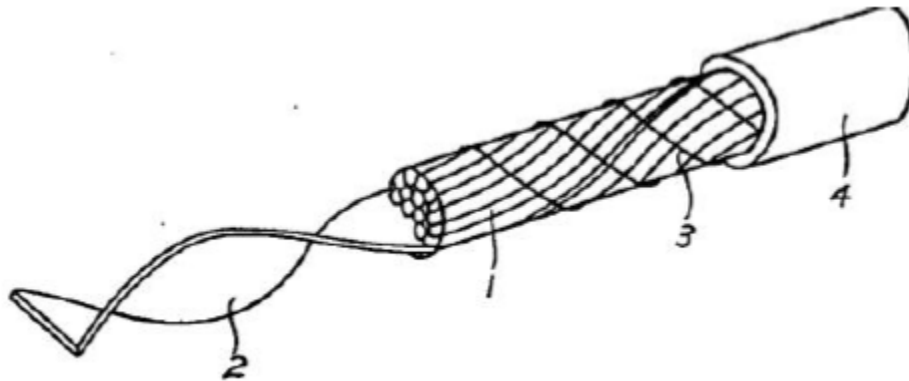


Figure 2 shows insulated wires 1, core material 2, press wrapping 3, and cable sheath 4. *Id.* Core material 2 is formed in a reciprocatingly twisted shape so that the directions of both sides gradually change along the lengthwise direction. *Id.* Yanagita states that “[t]his can be obtained through twisting a flat plate-shaped hard plastic, or the like, while maintaining a given temperature, so as to reverse, with a constant periodicity, the direction in which the surface of the plate faces.” *Id.* at col. 1–2.

2. *Patent Owner’s Request to “Disregard” Uncertified Translation of Yanagita (Ex. 1055)*

37 C.F.R. § 42.63 states that “when a party relies on a document or is required to produce a document in a language other than English, a translation of the document into English and an affidavit attesting to the accuracy of the translation must be filed with the document.” Petitioner provides a certified translation (Ex. 1012) of Japanese Patent Application Publication No. S43-15470 that Petitioner asserts constitutes prior art to the ’537 patent. Petitioner also provides an uncertified English translation (Ex. 1055) of the Japanese publication that Petitioner asserts was “used in prior reexamination of US 6,998,537.” Pet. viii. Petitioner asserts that Patent Owner’s argument that the certified translation version of Yanagita (Ex. 1012) does not teach or suggest a plurality of twisted pairs is

inconsistent with Patent Owner’s position during the prior reexamination of the ’537 patent, where Patent Owner did not dispute that Yanagita, in the uncertified English translation (Ex. 1055), disclosed a plurality of twisted pairs. Paper 7.

Patent Owner does not dispute that the certified translation (Ex. 1012) of Yanagita complies with 37 C.F.R. § 42.63. *See generally* Prelim. Resp. Rather, Patent Owner asserts that the uncertified version (Ex. 1055) should be “disregarded” because (1) both Petitioner and its declarant cite to the uncertified translation (Ex. 1055) and (2) there are “fundamental differences” between the certified and uncertified versions, for example, Petitioner refers to Ex. 1012 as “Yanagida” while the certified translation actually reads “Yanagita.”¹¹ Prelim. Resp. 18; *see also* Paper 9, 2 (stating that the certified translation of Yanagita (Ex. 1012) “***substantively differs*** from the uncertified translation used in the prior reexamination).” Paper 9, 2 (citing Prelim. Resp. 18, n.7).

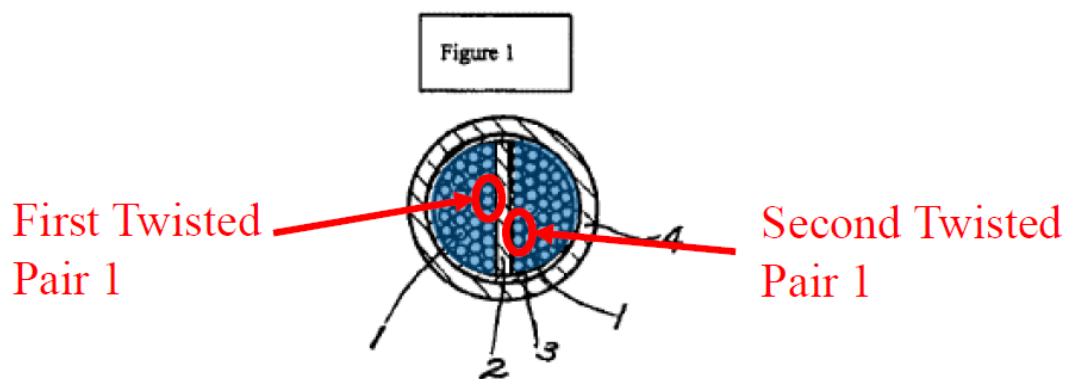
We decline to “disregard” the uncertified translation of Yanagita. Grounds 3 and 4 rely on the certified translation of Yanagita, not the uncertified translation, as the asserted art. Patent Owner does not provide a persuasive reason why the panel may not consider evidence outside of the art that forms the basis of Petitioner’s challenge when assessing obviousness. *See* June 9, 2022 USPTO Memorandum, Updated Guidance on the Treatment of Statements of the Applicant in the Challenged Patent in

¹¹ For convenience, we refer to the certified translation’s spelling (i.e., “Yanagita”) when referring to either the certified or uncertified translation of the Japanese patent application.

Inter Partes Reviews under § 311¹² (stating that in addition to the use of applicant admissions, “other AIA provisions support using evidence outside of prior art patents or printed publications when assessing §§ 102 or 103 issues in an IPR”). How much weight the uncertified translation should be given in assessing challenges based upon a certified translation is a matter best resolved at trial.

3. *Analysis of Claim 19*

Petitioner asserts Yanagita discloses the preamble and the twisted pairs recited in claim element 19[a] as Yanagita discloses a communication cable that lacks any conductive layers that could be considered shielding and a plurality of “strands of insulated wires or pairs thereof.” Pet. 39–40 (quoting Ex. 1012, col. 1; citing Ex. 1007 ¶¶ 129–30). Petitioner asserts that Yanagita’s disclosure of a plurality of “strands of insulated wires or pairs thereof” that run along the surface of the core material disclose the first and second twisted pair of insulated conductors recited in claim element 19[a]. Pet. 40 (quoting Ex. 1012, col. 1). Petitioner annotates Yanagita’s Figure 1, shown below, to label the purported first and second twisted pairs.



¹² available at <https://www.uspto.gov/sites/default/files/documents/2022060912updatedAAPAmemo.pdf>.

Yanagita's Figure 1 is a cross sectional diagram of a cable with insulated wire strands 1, core material 2, cable sheath 4, Petitioner's annotations of a first and second twisted pair added. Pet. 40.

Petitioner states that it would have been obvious to to place Jachimowicz's plastic-backed foam polymer tape in between Yanagita's core material 2 and at least one set of the twisted pairs to provide the separator recited in claim elements 19[b] and [d]. Pet. 40–41 (citing Ex. 1007 ¶¶ 137–142). Petitioner asserts that Jachimowicz's dielectric foamed polymer tape is substantially flat and configurable; Petitioner further asserts that a POSITA would have added Jachimowicz's tape to improve the electrical performance of the cable by reducing the capacitance and to reduce “crosstalk” between the twisted pairs, or group of pairs, on each side of the separator, with a reasonable expectation of success. Pet. 42–44 (citing Ex. 1007 ¶¶ 38, 41, 45, 81, 126–127, 139–141; Ex. 1015, 7:58–61).

Patent Owner responds that Yanagita does not teach or suggest the “twisted pairs” recited in claim elements 19[a] and 19[b] because Yanagita merely discloses “separated bundles of straight-line conductors” that are laid on opposite sides of a core material and twisted together along the surfaces of the core. Prelim. Resp. 18–19 (citing Ex. 2001 ¶¶ 62–63). Patent Owner asserts that Yanagita's discussion of insulated pairs relates to the prior art, not to Yanagita's embodiments. *Id.* Patent Owner further asserts that Yanagita fails to mention, let alone teach, reduction of crosstalk in a cable, or the separation of twisted pairs. Prelim. Resp. 19.

We have reviewed Petitioner's evidence and argument and determine that Petitioner sufficiently shows a reasonable likelihood that claim 19 would have been obvious over Yanagita and Jachimowicz, notwithstanding Patent Owner's arguments to the contrary. Yanagita states that its invention

relates to improvement of an alternating twisted cable through the use of a twisted core material that gradually “changes in a reciprocatingly twisted shape.” Ex. 1012, col. 1. Yanagita states “the alternatingly twisted cable” can comprise twisted pairs. *See* Ex. 1012, col. 1 (describing the alternating twisted cables as having a “large number strands of insulated wires or pairs thereof or quad strands or units thereof” that are “twisted together”).

Yanagita further states that in an embodiment of its improvement, “an insulated wire or that wherein insulated wires are twisted together, laid divided onto both sides of a core material 2” and that the core material 2 is formed in a reciprocatingly twisted shape. Whether a POSITA would have understood the insulated wires on both sides of the core material could include twisted pairs (as asserted by Petitioner) or can only be a bundle of wires that are all twisted together (as asserted by Patent Owner), is an issue best resolved upon a full record.

4. *Analysis of Claims 20 and 22*

Petitioner argues that claims 20 and 22 obvious over Yanagita, Jachimowicz, and Gingue. Pet. 45–47. In particular, Petitioner asserts that Gingue teaches the limitations requiring the separator to be a flame-retardant, low-dielectric constant, foamed polymer tape recited in claims 20 and 22 and that it would have been obvious to provide the foamed polymer separator tape of the Yanagita/Jachimowicz combination to provide these properties in view of the teachings of Gingue. *Id.* (citing Ex. 1013, 4:32–34, 4:37–56; Ex. 1007 ¶¶ 78, 81, 111–113, 127, 145–151). Patent Owner does not dispute these particular assertions. *See generally* Prelim. Resp. We have reviewed Petitioner’s arguments and evidence and determine that Petitioner has established a reasonable likelihood of prevailing on its assertions of obviousness of claims 20 and 22.

F. Asserted Obviousness over GmbH-866, Roberts, Gingue, and/or Jachimowicz (Ground 5)

Petitioner argues that claims 19, 20, and 22 would have been obvious over GmbH-866, Roberts, Gingue, and/or Jachimowicz. Pet. 47–64.

1. *GmbH-866 (Ex. 1010)*

GmbH-866 is a German patent application publication titled “Data transfer cable.” Ex. 1010, code (54). GmbH-866 “relates to a data transfer cable consisting of at least n-pairs, n being an even-numbered multiple of 1, of two isolated conductors in each case, a shielding of the conductor pairs that consists of an electrically conductive material, and an outer cable sheath.” *Id.* at 2. GmbH-866 describes that “[d]ata transfer cables of this kind typically consist of four pairs of two stranded isolated copper conductors or wires,” where “the individual conductor pairs are in each case surrounded by a shielding consisting of a metal foil.” *Id.*

Figure 1, reproduced below, shows a cross-section of GmbH-866’s cable.

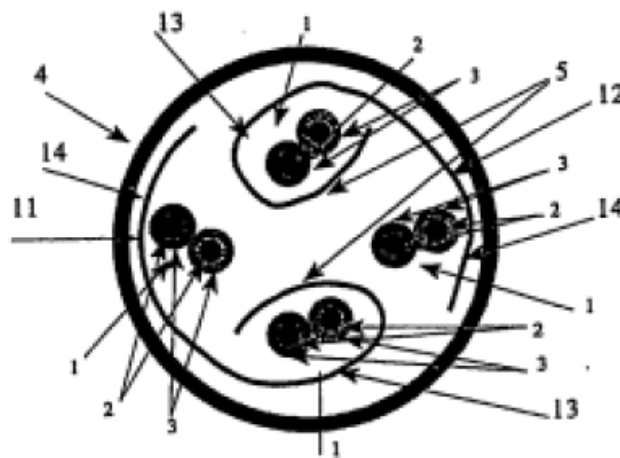


Figure 1 shows pairs 1, wires 2, insulation 3, electrical shielding 5, shieldings 11 and 12, each defining round portion 13 and curved end portion 14. *Id.* at 3–4. “[S]hieldings 11, 12 preferably consist of metal foils, in

particular, aluminum foils or aluminum foils laminated with plastics material.” *Id.* at 5. The individual “copper conductors or wires preferably have an insulation 3 consisting of a thermoplastic polymer, in particular polyethylene, cell polyethylene, foam-skin polyethylene, skin-foam-skin polyethylene, polypropylene, or cell polypropylene.” *Id.* at 3.

In the GmbH-866 cable, the “stranding of the pairs 1 can consist in what is known as a helix stranding or in an SZ stranding (alternating, right-left stranding).” *Id.* at 3. According to GmbH-866:

The production of a data transfer cable according to the invention, as described above, can take place such that the partial shieldings 11, 12 or 17, 18 are applied together with the stranding or the conductor pairs 1 and/or the longitudinally extending deformation of the conductor pairs 1. In particular, in the case of the stranding of the conductor pairs in the SZ stranding method, the laying tools provided for the partial shieldings 11, 12 can assist the change in the stranding direction in each case.

Id. at 5–6.

2. *Roberts (Ex. 1009)*

Roberts is a patent titled “Telephone Cable with Improved Crosstalk Properties.” Ex. 1009, code (54). Roberts “relates to multiconductor cables and has particular reference to arrangements for shielding certain of the conductors of such a cable from other conductors of the cable.” *Id.* at 1:5–8. Roberts discloses various cable embodiments “where there is used as a shield, an aluminum foil either per se or coated with a plastic.” *Id.* at 2:1–3.

Figure 13, reproduced below, shows a cross-sectional view of one cable embodiment.

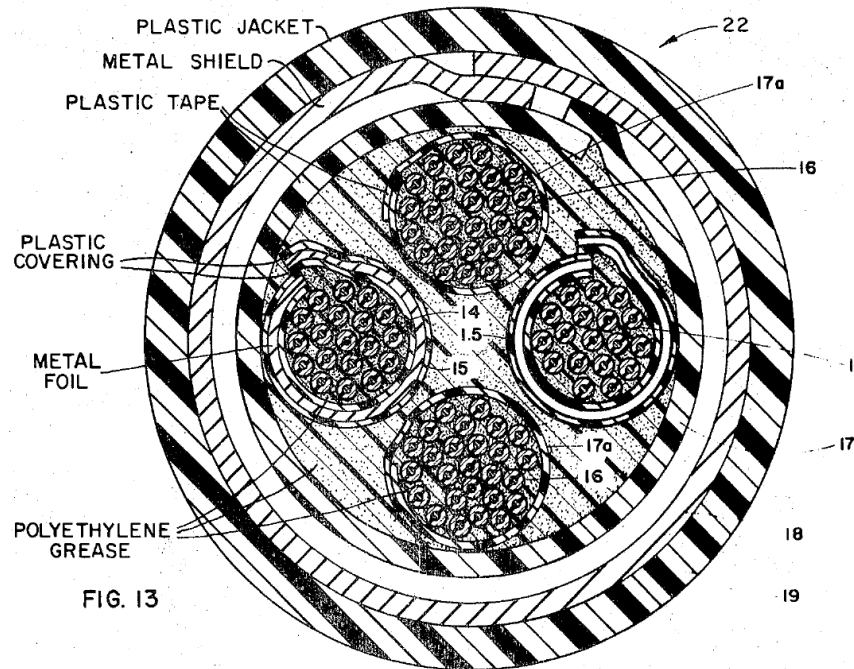


Figure 13 shows the insulated electrical conductors divided into a quad configuration, with conductors 14 and 16, shield 15, and tape 17a. *Id.* at 7:26–46. Shield 15 is a metal foil tape coated on both sides with a plastic. *Id.* at 7:32–41. Plastic tape 17a “can be made up of the conventional polyethylene terephthalate (Mylar).” *Id.* at 7:42–46.

3. Analysis of Claim 19

Petitioner asserts GmbH-866 teaches or suggests the preamble and the twisted pairs recited in claim element 19[a], because GmbH-866 teaches data transfer cable having “four pairs 1,” each consisting of two isolated, stranded (i.e., twisted) copper conductors 2 or wires. Pet. 57–59 (citing Ex. 1010, 3; Ex. 1007 ¶¶ 156–157, 175). Petitioner contends that it would have been obvious to use an unshielded, non-conductive, dielectric, plastic film-backed foamed polymer tape as taught by Jachimowicz in place of GmbH-866’s partial shielding to arrive at the separator recited in claim elements 19[b] and [d]. Pet. 59–61, 62–63. Petitioner provides a number of reasons why a POSITA would have been motivated to replace GmbH-866’s

plastic-coated partial shieldings 11, 12 with a plastic-backed polymer tape taught by Jachimowicz. Pet. 51–57. For example, Petitioner asserts that Roberts teaches that dielectric-only separators can be used to separate conductor pairs within a cable; that there are a finite number of combinations of plastic and/or metal separators that can be used; that modifying GmbH-866’s laminated foil to be a mylar-backed foamed polymer tape instead of partial shieldings 11, 12 would have been expected to improve electrical performance, lower manufacturing costs, and improve flame resistance of the cable. Pet. 51–54. Petitioner also asserts that it would have been obvious that GmbH-866’s cable sheath (jacket 4) would enclose the plurality of twisted pairs and dielectric separator as taught by the combination of GmbH-866 and Jachimowicz as required by claim element 19[c]. Pet. 61–62.

Patent Owner responds that GmbH-866 fails to teach or suggest “twisted pairs” as required by claim 19. Prelim. Resp. 28–35. Patent Owner asserts that a POSITA would have understood GmbH-866’s “stranded” copper conductors to constitute a number of smaller diameter strands of wires that are twisted together to form a larger, single conductor, and not a “twisted pair.” Prelim. Resp. 29–30. Patent Owner further asserts that Petitioner’s identification of GmbH-866’s “isolated conductors” is in error and in fact teaches away from twisted pairs because those conductors are both physically and electromagnetically intertwined, not isolated. *Id.* at 30–31 (citing Ex. 2001 ¶¶ 83–86; Ex. 1010, Fig. 1). Patent Owner also contends that GmbH-866 refers to the “effective diameter” of the individual copper conductors or wires, but that twisted pairs are not typically referred to as having a diameter at all. *Id.* at 31 (citing Ex. 2001 ¶ 87).

We have reviewed Petitioner’s evidence and argument and determine that Petitioner sufficiently shows a reasonable likelihood that claim 19 would have been obvious over the asserted art, notwithstanding Patent Owner’s arguments to the contrary. GmbH-866 describes data transfer cables as typically having “four pairs of two stranded isolated copper conductors or wires” and that each wire of these stranded pairs is preferably insulated. Ex. 1010, 2, Figure 1; Ex. 1007 ¶¶ 155–157. Whether a POSITA would have understood these disclosures GmbH-866 to constitute twisted pairs is an issue best resolved upon a full record.

4. *Analysis of Claims 20 and 22*

Claims 20 and 22 further require the separator of claim 19 to be a flame-retardant, low-dielectric constant, foamed polymer tape. Petitioner asserts that it would have been obvious to use Gingue’s flame-retardant, low-dielectric constant, foamed polymer tape in place of GmbH-866’s partial shieldings 11, 12 for the same reasons asserted in Grounds 2 and 4. Pet. 63–64 (citing Ex. 1013, 4:32–34, 4:37–56; Ex. 1007 ¶¶ 78, 81, 111–113, 127, 145–151). Patent Owner does not dispute these particular assertions. *See generally* Prelim. Resp. We have reviewed Petitioner’s arguments and evidence and determine that Petitioner has established a reasonable likelihood of prevailing on its assertions of obviousness of claims 20 and 22.

III. CONCLUSION

For the reasons set forth above, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to at least one challenged claim of the ’537 patent. Thus, we institute an *inter partes* review on all challenged claims and on all grounds presented.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that an *inter partes* review is instituted on each of the grounds asserted in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, which shall commence on the entry date of this decision.

IPR2023-01061
Patent 6,998,537 B2

FOR PETITIONER:

Timothy A. Lindquist
Dennis C. Bremer
CARLSON CASPERS VANDENBURGH & LINDQUIST
tlindquist@carlsoncaspers.com
dbremer@carlsoncaspers.com

FOR PATENT OWNER:

Denis J. Sullivan
Thomas Hoehner
BARCLAY DAMON, LLP
dsullivan@barclaydamon.com
thoehner@barclaydamon.com

Cory C. Bell
FINNEGAN, HENDERSON, FARABOW, GARRETT, & DUNNER LLP
cory.bell@finnegan.com