

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VANGUARD PRODUCTS GROUP, INC., D/B/A VANGUARD PROTEX
GLOBAL,
Petitioner,

v.

INVUE SECURITY PRODUCTS INC.,
Patent Owner.

IPR2019-01206
Patent 9,818,274 B2

Before MICHAEL R. ZECHER, LYNNE E. PETTIGREW, and
J. JOHN LEE, *Administrative Patent Judges*.

PETTIGREW, *Administrative Patent Judge*.

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

I. INTRODUCTION

Petitioner, Vanguard Products Group, Inc., d/b/a Vanguard Protex Global, filed a Petition for *inter partes* review of claims 1, 2, 4, 9–11, 14, 15, 19–25, 28, 30, 31, 33–36, 38, and 39 of U.S. Patent No. 9,818,274 B2 (Ex. 1001, “the ’274 patent”). Paper 1 (“Pet.”). Patent Owner, InVue Security Products Inc., filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

Under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a), we have authority to institute an *inter partes* review if “the information presented in the petition . . . and any response . . . shows that 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). After considering the Petition, the Preliminary Response, and the evidence of record, we conclude the information presented does not show there is a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of any of the challenged claims of the ’274 patent. Accordingly, we do not institute an *inter partes* review.

II. BACKGROUND

A. Related Matters

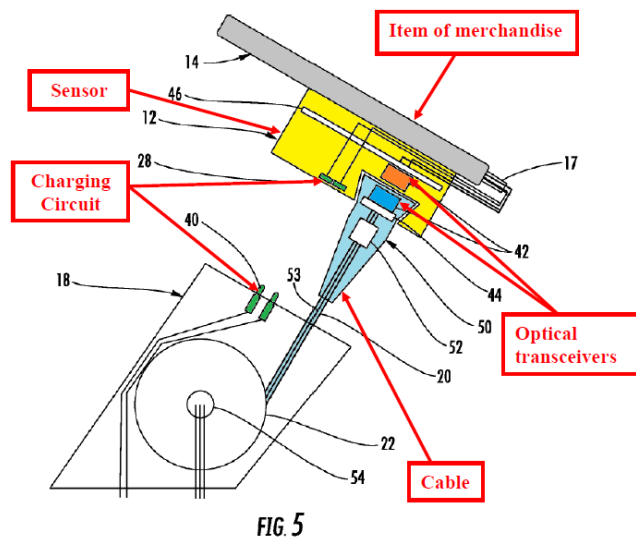
The parties identify *InVue Security Products Inc. v. Vanguard Products Group, Inc., d/b/a Vanguard Protex Global*, No. 8:18-cv-02548 (M.D. Fla.), as a related proceeding. Pet. 1; Paper 4, 1.

Petitioner also has filed a petition for *inter partes* review of U.S. Patent No. 10,062,253 B2, which is a continuation of the ’274 patent. *See Vanguard Prods. Grp., Inc., d/b/a Vanguard Protex Glob. v. InVue Sec. Prods. Inc.*, IPR2019-01209, Paper 1 (PTAB June 17, 2019) (Petition).

The parties identify two pending U.S. continuation applications that claim priority to the '274 patent: U.S. Patent Application Nos. 16/109,145 and 16/354,400. Pet. 1; Paper 4, 1. In addition, Petitioner identifies European Application No. EP 16800653.4 (Ex. 1014) and Canadian Patent Application No. CA 2,974,546 (Ex. 1013) as pending applications related to the '274 patent. Pet. 2.

B. Overview of the '274 Patent

The '274 patent describes a security system for protecting an item of merchandise, such as a consumer electronics product, from theft or unauthorized removal. Ex. 1001, code (57), 1:18–20. Figure 5 of the '274 patent, with Petitioner's annotations, is reproduced below:



Pet. 4 (citing Ex. 1001, Fig. 5). Annotated Figure 5 illustrates a security system according to one embodiment described in the '274 patent. Ex. 1001, 2:15–16. The security system includes sensor 12 configured to be secured to item of merchandise 14. *Id.* at 2:61–63. The security system also includes base 18 that is configured to removably support sensor 12 and item of merchandise 14. *Id.* at 2:66–3:1. Sensor 12 and base 18 include one or more contacts 28 and 40, respectively, for facilitating contact charging when

the sensor is supported on the base. *Id.* at 3:1–4. Sensor 12 may be electrically connected to connector 17, which is configured to connect electrically to an input jack of item of merchandise 14. *Id.* at 2:63–66.

The security system further includes cable 20, which is coupled to sensor 12 at one end and operably engaged with recoiler 22 mounted within base 18 at an opposite end. *Id.* at 3:4–7, 4:4–7. Cable 20 may include a pair of electrical conductors 53 for defining a sense loop and conducting an electrical signal. *Id.* at 4:8–13. A sense loop defined through cable 20 and sensor 12 may be electrically isolated from any charging circuit used to charge sensor 12 or item of merchandise 14. *Id.* at 3:8–11. Sensor 12 may be used to detect security events associated with the sensor or item of merchandise 14, such as the item of merchandise being removed from the sensor. *Id.* at 3:16–19.

In the embodiment shown in Figure 5, an end of cable 20 is optically connected to sensor 12. *Id.* at 5:13–14, 5:18–19. One end of cable 20 includes optical transceiver 42 for communicating with sensor 12 or item of merchandise 14. *Id.* at 5:20–22. Likewise, sensor 12 includes optical transceiver 42 for communicating with the optical transceiver at the end of cable 20. *Id.* at 5:22–25.

C. Illustrative Claim

Challenged claims 1 and 39 are independent, and challenged claims 2, 4, 9–11, 14, 15, 19–25, 28, 30, 31, 33–36, and 38 depend directly or indirectly from claim 1. Claim 1 is illustrative and is reproduced below:

1. A security system for securing an item of merchandise, comprising:
a sensor configured to be coupled to the item of merchandise,
wherein the sensor comprises an optical transceiver;

a charging circuit for providing power to the sensor and/or the item of merchandise; and

a cable configured to be connected to the sensor, wherein the cable comprises an optical transceiver,

wherein the optical transceiver of the cable and the optical transceiver of the sensor are configured to communicate optical signals with one another to determine if the cable has been cut or disconnected.

Ex. 1001, 9:51–63.

D. Asserted Grounds of Unpatentability

Petitioner asserts that the challenged claims are unpatentable based on the following grounds (Pet. 5):

Claim(s) Challenged	35 U.S.C. §	References
1, 2, 4, 9–11, 15, 19, 28, 33–36, 38, 39	103	Brenner ¹ , Koo ² , Vogt ³ , Chapman ⁴
14, 20	103	Brenner, Koo, Vogt, Chapman, Roberds ⁵
21–24	103	Brenner, Koo, Vogt, Chapman, McDonald ⁶
25	103	Brenner, Koo, Vogt, Chapman, McDonald, Tran ⁷
30, 31	103	Brenner, Koo, Vogt, Chapman, Fawcett ⁸

¹ Int’l Pub. No. WO 2011/045058 A2, published Apr. 21, 2011 (Ex. 1003, “Brenner”). Citations herein are to the certified English translation that appears before the original German language document in Exhibit 1003.

² U.S. Patent No. 6,169,295 B1, issued Jan. 2, 2001 (Ex. 1004, “Koo”).

³ U.S. Patent No. 5,912,619, issued June 15, 1999 (Ex. 1005, “Vogt”).

⁴ U.S. Patent No. 6,150,940, issued Nov. 21, 2000 (Ex. 1006, “Chapman”).

⁵ U.S. Patent App’n Pub. No. 2016/0087726 A1, published Mar. 24, 2016 (Ex. 1008, “Roberds”).

⁶ U.S. Patent No. 6,648,520 B2, issued Nov. 18, 2003 (Ex. 1009, “McDonald”).

⁷ U.S. Patent No. 8,579,659 B2, issued Nov. 12, 2013 (Ex. 1010, “Tran”).

⁸ U.S. Patent No. 8,368,536 B2, issued Feb. 5, 2013 (Ex. 1011, “Fawcett”).

III. DISCUSSION

A. Principles of Law

A claim is unpatentable 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 ordinary skill in the art; and (4) when in evidence, objective indicia of non-obviousness.⁹ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). “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).

B. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art at the time of the invention of the ’274 patent would have had a bachelor’s degree in electrical engineering and four to five years of experience working with point-of-purchase anti-theft devices. Pet. 4. Patent Owner disagrees, asserting instead that a person of ordinary skill in the art would have had at least a bachelor’s degree in electrical engineering, mechanical engineering, materials science, or some equivalent level of education, as well as

⁹ Neither party presents arguments or evidence regarding objective indicia of non-obviousness at this time.

experience with the design and application of fiber optic cabling, optical communication components, and data transmission. Prelim. Resp. 3 (citing Ex. 2001 ¶¶ 27–31).

Various factors may be considered in determining the level of ordinary skill in the art, including the type of problems encountered in the art and prior art solutions to those problems. See *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007); *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). Considering the subject matter of the '274 patent and the prior art of record, we agree with some aspects of Petitioner's proposal as well as some aspects of Patent Owner's proposal. For instance, as indicated by its title, the '274 patent is directed to a merchandise security system with optical communication. See Ex. 1001, code (54). Thus, we agree with Patent Owner that a person of ordinary skill in the art would at least have experience with optical communication technology. We also agree with Patent Owner that the invention disclosed in the '274 patent is not limited to use as a point-of-purchase anti-theft device. See Prelim. Resp. 7–8 (citing Ex. 1001, 2:55–60). We disagree, however, with Patent Owner's argument that experience with security systems is unnecessary. See *id.* In view of the '274 patent and the principal prior art references in the record, which generally are directed to security systems, we find that a person of ordinary skill in the art would have some experience with security devices.

The educational level of inventors and that of active workers in the field are also factors that may be considered. *Daiichi*, 501 F.3d at 1256. On the present record, we agree with Patent Owner's more inclusive proposal regarding the educational level of a person skilled in the art. See Prelim. Resp. 8–9.

For purposes of this Decision, based on the parties’ arguments and our review of the record, we find that a person of ordinary skill in the art would have had a bachelor’s degree in electrical engineering, mechanical engineering, materials science, or some equivalent level of education, and some work experience with the design of security devices and applications using optical communication technology. We note that, even if we adopted either Petitioner’s or Patent Owner’s proposed level of skill in the art in its entirety, our analysis below of Petitioner’s asserted obviousness grounds would not change and we would reach the same conclusions.

C. Claim Construction

In an *inter partes* review filed on or after November 13, 2018, we apply the same claim construction standard that would be used in a civil action under 35 U.S.C. § 282(b), following the standard articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b) (2019); 83 Fed. Reg. 51,340, 51,340–41, 51,343 (Oct. 11, 2018). In applying this standard, we generally give claim terms their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art, at the time of the invention and in the context of the entire patent disclosure. *Phillips*, 415 F.3d at 1312–13.

Petitioner proposes constructions for two claim terms, “optical transceiver” and “sense loop.” Pet. 6–8. Patent Owner accepts Petitioner’s proposed constructions for purposes of its Preliminary Response. Prelim. Resp. 9.

Of the two claim terms construed by Petitioner, only “optical transceiver” is relevant to this Decision. The ’274 patent states that “an optical transceiver [is] configured to transmit and receive data” and “may be used to transmit optical signals in predetermined sequences or patterns, as

well as receive optical signals and convert the optical signals into electrical signals.” Ex. 1001, 1:59–60, 1:62–63, 5:34–37; *see* Pet. 6. Citing definitions of “optical transceiver,” “optical receiver,” “optical transmitter,” and “transceiver” from a technical dictionary, Petitioner contends that “optical transceiver” should be construed as “an optical receiver and an optical transmitter housed in a single unit with appropriate electrical and optical connectors.” Pet. 6–7 (citing Ex. 1002, 347, 674, 676–77, 1022–23).

For purposes of this Decision, we adopt Petitioner’s proposed construction of “optical transceiver,” which is consistent with the term’s use in the ’274 patent and its ordinary and customary meaning in the art. No other claim terms require express construction at this time. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (holding that only claim terms in controversy need to be construed, and only to the extent necessary to resolve the controversy (citing *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

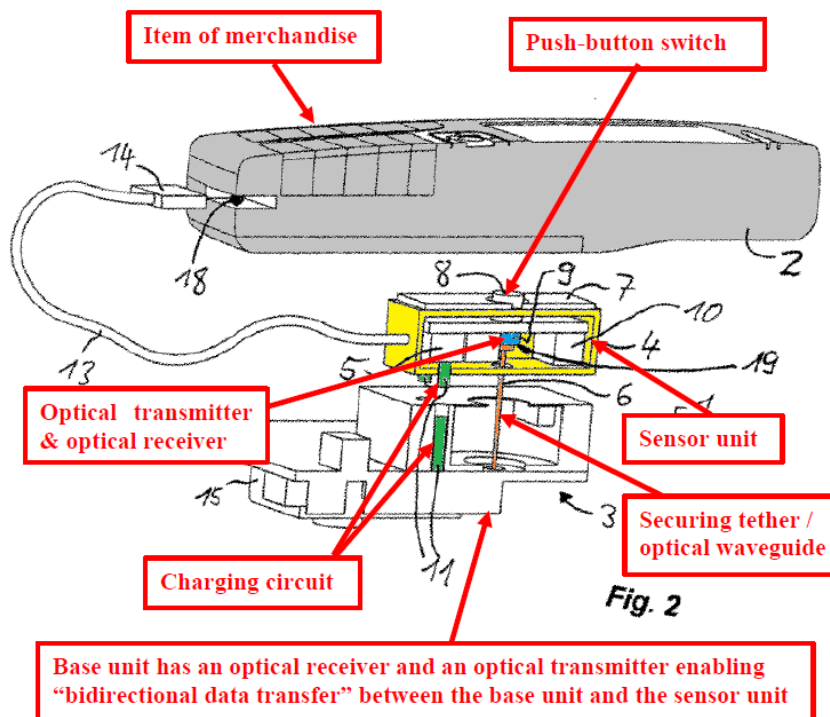
D. Asserted Obviousness over Brenner, Koo, Vogt, and Chapman

Petitioner contends that claims 1, 2, 4, 9–11, 14, 15, 19, 28, 33–36, 38, and 39 of the ’274 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over the combination of Brenner, Koo, Vogt, and Chapman. Pet. 18–23, 29–62. Relying on the Declaration of Mr. John “Jack” Figh (Ex. 1007), Petitioner asserts that the proposed combination of Brenner, Koo, Vogt, and Chapman teaches or suggests the subject matter of the challenged claims and that a person of ordinary skill in the art would have combined the references. *Id.* In response, Patent Owner argues, among other things, that the Petition fails to provide a reasonable rationale for combining the references in the manner asserted. Prelim. Resp. 9–18. For

the reasons discussed below, we conclude that Petitioner has not demonstrated a reasonable likelihood it would prevail in showing any of claims 1, 2, 4, 9–11, 14, 15, 19, 28, 33–36, 38, and 39 are unpatentable.

1. Brenner

Brenner describes a device for securing objects, such as exhibited merchandise, against theft. Ex. 1003, 1. Figure 2 of Brenner, with Petitioner's annotations, is reproduced below:



Pet. 10 (citing Ex. 1003, Fig. 2). As shown in annotated Figure 2 above, Brenner's device includes base unit 3 and sensor unit 4, which can be attached to object 2 by connecting line 13. Ex. 1003, 8, 10. Sensor unit 4 includes push-button switch 8 that is actuated when the sensor unit is connected to object 2. *Id.* at 8. When object 2 is detached from sensor unit 4, the contact of push-button switch 8 opens. *Id.*

Sensor unit 4 is connected to base unit 3 by securing tether 6 having an optical waveguide. *Id.* at 8. When sensor unit 4 rests on base unit 3,

electrical contact elements 11 are connected to each other so that object 2 can be charged via the sensor unit and connecting line 13. *Id.* at 10.

When object 2 is detached from sensor unit 4, push-button switch 8 is released. *Id.* at 8. In order to alert base unit 3 that object 2 has been removed, push-button switch 8 interacts with electronic unit 5 and optical transmitter 9 in sensor unit 4. Optical transmitter 9 emits an optical signal that is transmitted to an optical receiver in base unit 3 (not shown in Figure 5) via the optical waveguide in securing tether 6. *Id.* at 9. When base unit 3 receives the signal indicating a security event has occurred, the base unit triggers an alarm. *Id.* at 8.

Brenner's device optionally can be designed for bidirectional data transfer via the optical waveguide of the securing tether in order to transfer control signals from the base unit to the sensor unit. *Id.* at 7. For this purpose, an additional optical transmitter can be included in the base unit and an additional optical receiver can be included in the sensor unit. *Id.*

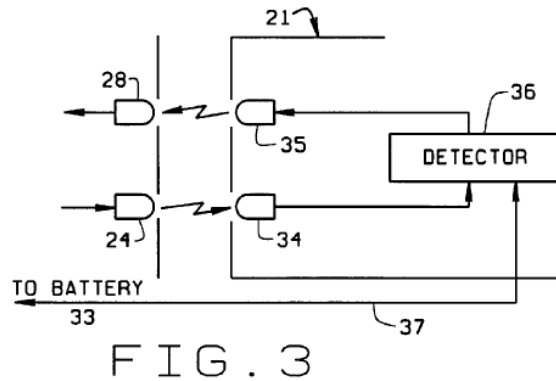
Securing tether 6 can be designed as a smooth tether or as a spiral cable. *Id.* at 5. Securing tether 6 also may be wound in winding device 15 under tensile stress so that the securing tether cannot be seen when object 2 and sensor unit 4 are in a resting position on base unit 3. *Id.* at 5–6, 11.

2. Koo

Koo describes an infrared receiver and transmitter integrated into a single transceiver module. Ex. 1004, 1:4–6. Koo explains that such integrated transceivers are desirable because they save space, tend to be more durable, and often consume less power than equivalent structures formed with discrete components. *Id.* at 1:18–33.

3. Vogt

Vogt discloses a security system that uses optical signals to detect displacement between two units or objects adjacent to, or in close proximity to, each other. Ex. 1005, 1:14–23. In one embodiment, each object is equipped with a pair of transducers. *Id.* at 5:41–43. Figure 3 of Vogt is reproduced below:



As shown in Figure 3 above, a first unit includes transducer 24 (e.g., a light source such as an infrared light-emitting diode) that transmits signals, and a second unit includes transducer 34 (e.g., a light receiver such as an infrared sensor) that receives signals from transducer 24. *Id.* at 4:35–39, 5:43–46. Similarly, transducer 28 in the first unit receives signals transmitted by transducer 35 in the second unit. *Id.* at 5:51–55.

Vogt's security system includes tamper switches for detecting when a tamper event occurs. *Id.* at 7:16–17, 7:21–22. For example, the second unit may be equipped with a spring-loaded plunger button that is depressed when the two units or objects are close or connected but is released when the units are no longer in close proximity. *Id.* at 7:26–35. If the tamper switch is released, the second unit may communicate the tamper event to the first unit, which communicates it via electrical conductors to a central controller, triggering an alarm. *Id.* at 6:65–7:1, 7:51–55, Fig. 4.

4. *Chapman*

Chapman discloses an anti-theft power cord for securing electronic devices. Ex. 1006, code (57). Each end of the power cord has a sensor that detects when that end has been disconnected from its designated receptacle or the electronic device. *Id.* at 3:19–24. One type of sensor that may be used is an optical sensor. *Id.* at 3:54–55.

5. *Analysis*

Petitioner contends that independent claim 1 would have been obvious over the combined teachings of Brenner, Koo, Vogt, and Chapman. Pet. 29–46. Petitioner relies on Brenner for teaching a security system for securing an item of merchandise, as recited in the preamble of claim 1. *Id.* at 29. Petitioner also relies on Brenner for teaching a sensor coupled to the item of merchandise, a charging circuit, and a cable connected to the sensor, as recited in claim 1. *Id.* at 29–34. With respect to the claimed sensor comprising an optical transceiver, Petitioner asserts that Brenner’s optical transmitter, optical receiver, and associated components housed together in the sensor unit collectively form an optical transceiver under Petitioner’s construction of that term, which we have adopted for purposes of this Decision. *Id.* at 30–31. In the alternative, Petitioner contends it would have been obvious in view of Koo’s teaching of an integrated infrared transceiver (i.e., an integrated optical transceiver) to use a single optical transceiver in Brenner’s sensor unit. *Id.* at 31.

Claim 1 also requires the cable to comprise an optical transceiver. Petitioner asserts that the optical transmitter and optical receiver housed together in the base unit of Brenner’s device collectively form an optical transceiver or, alternatively, an integrated optical transceiver in Brenner’s base would have been obvious in view of Koo. *Id.* at 35. Acknowledging

that Brenner does not disclose a *cable* comprising an optical transceiver as claimed, Petitioner contends it would have been obvious to a person of ordinary skill in the art to relocate the optical transceiver from the base of Brenner's device into the proximal end of the cable (i.e., the end of Brenner's securing tether coupled to the sensor). *Id.* at 35–42; *see also id.* at 19–23 (providing similar analysis regarding motivation to combine references).

Petitioner begins by alleging that a person of ordinary skill in the art would have recognized “reliability issues associated with signal loss within the optical waveguide” of Brenner's device. *Id.* at 36 (citing Ex. 1007 ¶ 65); *see id.* at 21 (citing Ex. 1007 ¶ 45). In particular, Petitioner points out that Brenner discloses its securing tether can be a spiral cable or can be housed within a winding device and wound under tensile stress. *Id.* at 36 (citing Ex. 1003, 5–6, 11). According to Petitioner, it is a “well-known fact that when optical waveguides are subjected to bending or winding, they are prone to at least two types [of] signal loss: ‘curvature loss’ and ‘microbend loss.’” *Id.* (citing Ex. 1002, 535–36); *see id.* at 19 (citing Ex. 1002, 196, 536, 576; Ex. 1007 ¶ 44). Citing a technical dictionary, Petitioner asserts that a curvature loss is “the light energy loss attributed to macrobending of the fiber or the cable,” and a microbend loss is “the power loss caused by a microbend, *i.e.*, a small bend, kink, or abrupt discontinuity in the direction of the optical axis of fibers, in the core-cladding interface surface, or both, *usually caused by cabling, wrapping the fiber around drums and capstans, and winding the fiber on reels.*” *Id.* at 36 (citing Ex. 1002, 196, 536, 546, 576); *see id.* at 20. Thus, Petitioner contends, the optical transceivers in Brenner's sensor unit and base unit “may not be able to reliably communicate with one another due to optical signal loss within the optical

waveguide.” *Id.* at 36–37 (citing Ex. 1003, 5; Ex. 1007 ¶ 67); *see id.* at 21 (“Thus, a [person of ordinary skill in the art] would have recognized that the security device of Brenner is prone to reliability issues due to signal loss in the optical waveguide.” (citing Ex. 1007 ¶ 45)).

In view of this purported “readily-apparent flaw,” Petitioner contends that a person of ordinary skill in the art would have been motivated “to improve the reliability of the security device of Brenner by enabling the sensor unit and the base unit to communicate with one another without sending optical signals across the optical waveguide of the securing tether.” *Id.* at 37 (citing Ex. 1007 ¶ 67); *see id.* at 21 (citing Ex. 1007 ¶ 45). Petitioner argues this alleged motivation would have led a person skilled in the art to Vogt, which teaches a security device in which two transceivers communicate optical signals with each other directly, without using an optical waveguide as a conduit. *Id.* at 37 (citing Ex. 1005, Fig. 3; Ex. 1007 ¶ 68); *see id.* at 21 (citing Ex. 1007 ¶ 46). Based on Vogt, Petitioner asserts that a person of ordinary skill would have been motivated to place Brenner’s optical transceivers in close proximity to each other by relocating the transceiver from the base to the proximal end of the securing tether. *Id.* at 39 (citing Ex. 1007 ¶ 70); *see id.* at 21–22 (citing Ex. 1007 ¶ 47). Then, Petitioner asserts, standard electrical conductors could be used in the securing tether to establish a communications path between the optical transceiver in the securing tether and the base unit, an arrangement similar to Chapman’s security cable comprising electrical conductors and an integrated optical sensor. *Id.* at 39 (citing Ex. 1007 ¶ 70; Ex. 1006, 3:54–55, 10:16–17); *see id.* at 22 (citing Ex. 1007 ¶ 47).

Petitioner summarizes the motivation for modifying Brenner as follows: “[b]y relocating the optical transceiver from the base unit into the

proximal end of the securing tether, the optical waveguide—which is prone to signal loss due to bending—would be replaced with standard electrical conductors, which do not suffer signal loss when bent.” *Id.* at 41–42 (quoting Ex. 1007 ¶ 72) (emphasis omitted); *see id.* at 22–23 (citing Ex. 1007 ¶ 48). According to Petitioner, this improvement would obviate the need for an optical waveguide within the securing tether, and thus eliminate the issue of signal loss between the sensor unit and the base unit. *Id.* at 23, 40 (citing Ex. 1007 ¶¶ 48, 71). Petitioner also argues this improvement would yield a predictable result and would require nothing more than an obvious arrangement of known components with each component performing its intended function. *Id.* at 41–42 (citing Ex. 1007 ¶ 72).

Patent Owner contends that Petitioner fails to provide a reasonable rationale for modifying Brenner in the manner asserted in the Petition. Prelim. Resp. 2, 10–18. For the following reasons, we agree with Patent Owner that the Petition lacks adequate reasoning supported by evidence in the record for the proposed modifications to Brenner based on the teachings of Vogt and Chapman.

First, as Patent Owner notes, Brenner teaches various embodiments of its optical waveguide tether, including a spiral cable and a securing tether wound under tensile stress. Ex. 1003, 5; *see* Prelim. Resp. 12. Notwithstanding these embodiments in which the optical waveguide tether would be subject to bending, Brenner states that “the apparatus according to the invention also has the advantage of reduced susceptibility to faults, because the optoelectronic signal transfer device operates practically without wear.” Ex. 1003, 3; *see* Prelim. Resp. 12. Thus, contrary to Petitioner’s argument that bending or winding Brenner’s optical waveguide would create

reliability issues, Brenner itself suggests that using an optical waveguide in the securing tether improves reliability, despite the possibility that the optical waveguide could be bent or wound. *See* Ex. 1003, 3.

Next, we agree with Patent Owner that Petitioner provides insufficient evidentiary support for its conclusion that Brenner's optical waveguide is prone to signal loss that makes Brenner's system unreliable. *See* Prelim. Resp. 15. In asserting that optical waveguides subjected to bending and winding are prone to signal loss, Petitioner cites only dictionary definitions of "loss," "curvature loss," and "microbend loss" and the Declaration of Mr. Figh. Pet. 19–20, 36 (citing Ex. 1002, 196, 535–36, 546, 576; Ex. 1007 ¶ 44). Mr. Figh, in turn, relies solely on the same definitions from the same dictionary. Ex. 1007 ¶¶ 44, 66. Neither Petitioner nor Mr. Figh, however, shows what effect, if any, a curvature loss or microbend loss would have on the optical waveguide used in Brenner's securing tether. *See* Pet. 19–21, 36–37; Ex. 1007 ¶¶ 44, 66. Furthermore, the Petition fails to explain adequately why a person of ordinary skill in the art would have recognized that a curvature loss or microbend loss in Brenner's device would result in signal loss sufficient to adversely affect the reliability of communications between Brenner's transceivers. *See* Pet. 21, 36–37 (citing Ex. 1007 ¶¶ 45, 67). Although Petitioner cites Mr. Figh's Declaration for support, his testimony on this point is entitled to little or no weight because he does not identify any evidence in the record to support his conclusory statements, which are essentially the same as those in the Petition. *See* Ex. 1007 ¶¶ 45, 67; 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.").

Petitioner contends that a person of ordinary skill in the art would have been motivated to improve the reliability of Brenner's security device by eliminating the optical waveguide in the securing tether and moving the optical transceiver from the base unit to the proximal end of the securing tether to communicate directly with the transceiver in Brenner's sensor unit. Pet. 37; *see id.* at 21–22. But without a sufficient showing in the Petition that a person of ordinary skill would have considered Brenner's device as having reliability issues, there is no valid basis underlying Petitioner's proposed motivation for modifying Brenner in view of the teachings of Vogt and Chapman. Thus, Petitioner fails to provide sufficient articulated reasoning with rational underpinning for modifying Brenner's system as proposed and combining the teachings of the references in the manner asserted.

For at least these reasons, we determine that the information presented does not demonstrate a reasonable likelihood that Petitioner would prevail in showing that independent claim 1 is unpatentable as obvious over the combination of Brenner, Koo, Vogt, and Chapman. For the same reasons, the information presented does not demonstrate a reasonable likelihood that Petitioner would prevail in showing that independent claim 39, which recites the same relevant limitations as claim 1, is unpatentable or that dependent claims 2, 4, 9–11, 14, 15, 19, 28, 33–36, and 38 are unpatentable as obvious over the combination of Brenner, Koo, Vogt, and Chapman. *See* Pet. 46–62.

E. Remaining Asserted Obviousness Grounds

Petitioner adds the teachings of various references to the combination of Brenner, Koo, Vogt, and Chapman in challenging the following dependent claims: claims 14 and 20 (adding Roberds (Ex. 1008)); claims 21–24 (adding McDonald (Ex. 1009)); claim 25 (adding McDonald and Tran

(Ex. 1010)); and claims 30 and 31 (adding Fawcett (Ex. 1011). Pet. 62–78. Petitioner relies on Roberds, McDonald, Tran, and Fawcett only for teaching the limitations added by the dependent claims, not for teaching the subject matter of independent claim 1. *Id.* Thus, for the same reasons discussed above, the information presented does not demonstrate a reasonable likelihood that Petitioner would prevail in showing that claims 14, 20–25, 30, and 31 are unpatentable as obvious over the asserted combinations of references.

IV. CONCLUSION

After considering the evidence and arguments presented in the Petition and Preliminary Response, we determine that the information presented does not show a reasonable likelihood that Petitioner would prevail in establishing that at least one of the challenged claims of the '274 patent is unpatentable on the grounds asserted in the Petition.

V. ORDER

Accordingly, it is

ORDERED that the Petition is *denied*, and no *inter partes* review is instituted.

IPR2019-01206
Patent 9,818,274 B2

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