

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.

IPR2020-00069
Patent 10,043,358 B1

Before MICHAEL R. ZECHER, BARBARA A. PARVIS, and
CYNTHIA M. HARDMAN, *Administrative Patent Judges*.

HARDMAN, *Administrative Patent Judge*.

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

I. INTRODUCTION

Vanguard Products Group, Inc., d/b/a Vanguard Protex Global (“Petitioner”) filed a Petition requesting an *inter partes* review (“IPR”) of claims 1–3, 16–20, 23, 28, and 29 of U.S. Patent No. 10,043,358 B1 (“the ’358 Patent,” Ex. 1001). Paper 1 (“Pet.”). InVue Security Products, Inc. (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 6 (“Prelim. Resp.”). Under 37 C.F.R. § 42.4(a), we have authority to determine whether to institute review.

An *inter partes* review may not be instituted unless the information presented in the Petition and Preliminary Response 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) (2018).

The following preliminary findings of fact and conclusions of law are made for the sole purpose of determining whether to institute review. Any final decision will be based on the full trial record. Taking into account the information presented in the Petition and Preliminary Response, for reasons set forth below, we find that Petitioner meets the reasonable likelihood threshold showing necessary to support institution of review of claims 1–3, 16–20, 23, 28, and 29.

A. *Related Matters*

The parties state that the ’358 Patent is one of multiple patents that are the subject of a district court case captioned *InVue Security Products Inc. v. Vanguard Products Group, Inc., d/b/a Vanguard Protex Global*,

Case No. 8:18-cv-02548-VMC-SPF (M.D. Fla. 2018). Pet. 1; Paper 5 (Patent Owner's Mandatory Notices), 1.

The parties indicate that Petitioner has filed the following IPR petitions challenging the following patents owned by Patent Owner:

- (1) IPR2019-01206, challenging U.S. Patent No. 9,818,274;
- (2) IPR2019-01209, challenging U.S. Patent No. 10,062,253;
- (3) IPR2020-00014, challenging U.S. Patent No. 10,008,082;
- (4) IPR2020-00018, challenging U.S. Patent No. 10,098,481;
- (5) IPR2020-00032, challenging U.S. Patent No. 9,972,178;
- (6) IPR2020-00048, challenging U.S. Patent No. 9,747,765 (the '765 Patent); and
- (7) IPR-2020-00066, challenging U.S. Patent No. 9,805,564 (the '564 Patent).

Pet. 2; Paper 5 (Patent Owner's Mandatory Notices), 1.

To date, other Board panels denied the petitions on the merits in IPR2019-01206, IPR2019-01209, IPR2020-00014, and IPR2020-00018, and granted the petitions in IPR2020-00032, IPR2020-00048, and IPR2020-00066. *Vanguard Prods. Grp., Inc., d/b/a Vanguard Protex Glob. v. InVue Sec. Prods.*, IPR2019-01206, Paper 8 (PTAB Jan. 8, 2020) (Decision Denying Institution); *Vanguard Prods. Grp., Inc., d/b/a Vanguard Protex Glob. v. InVue Sec. Prods.*, IPR2019-01209, Paper 9 (PTAB Jan. 8, 2020) (Decision Denying Institution); *Vanguard Prods. Grp., Inc., d/b/a Vanguard Protex Glob. v. InVue Sec. Prods.*, IPR2020-00014, Paper 8 (PTAB April 1, 2020) (Decision Denying Institution); *Vanguard Prods. Grp., Inc., d/b/a*

Vanguard Protex Glob. v. InVue Sec. Prods., IPR2020-00018, Paper 7 (PTAB Mar. 31, 2020) (Decision Denying Institution); *Vanguard Prods. Grp., Inc., d/b/a Vanguard Protex Glob. v. InVue Sec. Prods.*, IPR2020-00032, Paper 7 (PTAB Apr. 3, 2020) (Decision Granting Institution); *Vanguard Prods. Grp., Inc., d/b/a Vanguard Protex Glob. v. InVue Sec. Prods.*, IPR2020-00048, Paper 8 (PTAB Mar. 30, 2020) (Decision Granting Institution); *Vanguard Prods. Grp., Inc., d/b/a Vanguard Protex Glob. v. InVue Sec. Prods.*, IPR2020-00066, Paper 7 (PTAB Mar. 30, 2020) (Decision Granting Institution).

Petitioner states that the '358 and '564 Patents are continuations of, and claim priority to, the '765 Patent. Pet. 2. Petitioner further states that “[a]ll three patents in this family have similar limitations, and, therefore, this IPR is closely related to IPR2020-00048 and IPR2020-00066.” Pet. 2.

Patent Owner additionally identifies the following patent applications that are “related to the challenged patent and therefore may be affected by a decision in this proceeding”: U.S. Patent Application Nos. 15/474,338 (issued as U.S. Patent No. 9,761,101 on Sept. 12, 2017); 15/957,519 (issued as U.S. Patent No. 10,068,444 on Sept. 4, 2018); 16/109,200 (issued as U.S. Patent No. 10,403,105 on Sept. 3, 2019); and 16/554,016. Paper 5 (Patent Owner’s Mandatory Notices), 1.

B. *Overview of the '358 Patent*

The '358 Patent, entitled “Recoiler for a Merchandise Security System,” issued on August 7, 2018, from an application filed on March 20, 2018. Ex. 1001, codes (22), (45), (54). The '358 Patent has an extensive

chain of priority that ultimately results in it claiming priority to two provisional applications, Nos. 62/240,171, filed on October 12, 2015, and 62/297,215, filed on February 19, 2016.¹ Ex. 1001, code (60).

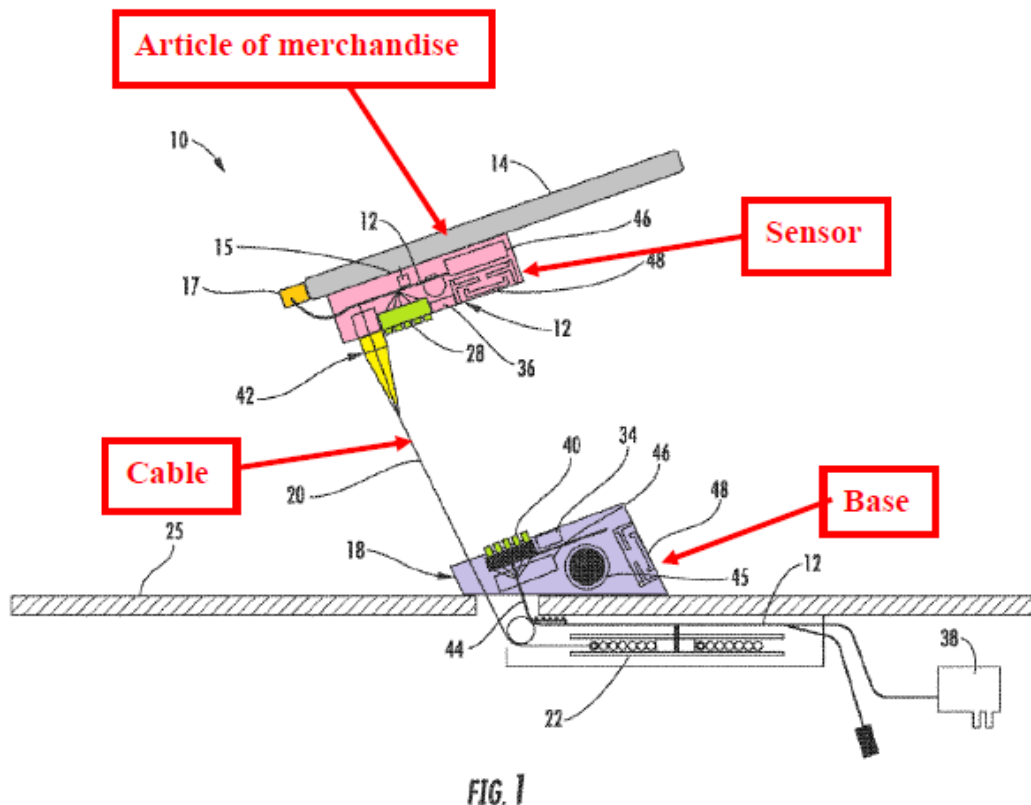
The '358 Patent states that “[e]mbodiments of the present invention are directed to recoilers, merchandise security systems, and methods for displaying and protecting an article of merchandise from theft.” Ex. 1001, code (57). In one embodiment, “the merchandise security system includes a sensor configured to be secured to the article of merchandise and a base for removably supporting the sensor and the item of merchandise thereon.” *Id.* The system also includes a recoiler operably coupled to the sensor, where the recoiler allows a cable to be extended and retracted in response to the sensor being lifted and returned to the base. Ex. 1001, 1:52–64.

The system also includes “a cable configured to be operably connected to the sensor and the base and an auxiliary port disposed within the base and configured to operably connect to an auxiliary device of the item of merchandise.” Ex. 1001, 2:22–27. “The base is configured to transfer power to the item of merchandise and the auxiliary device, and a

¹ Petitioner contends that the effective filing date of the '358 Patent is the filing date of Provisional Application No. 62/297,215 (February 19, 2016), because Provisional Application No. 62/240,171 (filed October 12, 2015) purportedly “does not have any disclosure pertaining to an auxiliary port—which is a limitation present in every claim of the '358 Patent.” Pet. 3. Patent Owner does not address the issue of effective filing date in its Preliminary Response. *See generally* Prelim. Resp. For purposes of determining whether to institute, we need not, and thus do not, reach the issue of the effective filing date of the '358 Patent.

sense loop is defined in the cable and the auxiliary port for detecting a security event.” Ex. 1001, 2:27–30.

Petitioner provides the following annotated version of Figure 1 of the '358 Patent (*see* Pet. 4), which provides an overview of the disclosed security system:



VPG-1001, Figure 1 (annotated)

The annotated version of Figure 1 of the '358 Patent, reproduced above, illustrates, among other things, an article of merchandise coupled to a sensor, and a cable connecting the sensor to a base.

The '358 Patent further provides that, in some embodiments, the end of the cable may include an optical transceiver for communicating with the

sensor and/or the item of merchandise, and the sensor may include an optical transceiver for communicating with the optical transceiver at the end of the cable. Ex. 1001, 6:30–35.

C. Challenged Claims

Of the challenged claims of the '358 Patent, only claim 1 is independent. Claim 1 is illustrative and is reproduced below:

1. A merchandise security system for displaying and protecting an article of merchandise and an auxiliary device of the article of merchandise from theft, comprising:

a sensor that is secured to the article of merchandise and that detects removal of the article of merchandise from the sensor;

a base that removably supports the sensor and the article of merchandise thereon, wherein the base further comprises an auxiliary port that operably connects to the auxiliary device; and

a cable operably connected to the sensor and the base, wherein the base transfers power to the auxiliary port for powering the auxiliary device, and

wherein a security signal is transmitted through the auxiliary port that is used to detect removal of the auxiliary device from the base.

Ex. 1001, 9:26–41.

The Petition also challenges the patentability of dependent claims 2–3, 16–20, 23, 28, and 29. Pet. 1. Each of these claims directly or indirectly depends from claim 1, and accordingly, includes the same limitations of claim 1.

D. Asserted Prior Art References

Petitioner relies upon the prior art references set forth in the table below.

| First-Named Inventor or Short Name | Patent or Publication No. | Relevant Date | Exhibit No. |
|---|--|----------------------------|--------------------|
| Grant | US 2015/0235533 A1 | published Aug. 20, 2015 | 1004 |
| Marszalek | US 8,395,907 B2 | issued Mar. 12, 2013 | 1005 |
| Wheeler | US 2013/0168527 A1 | published July 4, 2013 | 1006 |
| Brenner | WO 2011/045058 A2 (English translation) | published Apr. 21, 2011 | 1007 |
| Vogt | US 5,912,619 | issued June 15, 1999 | 1008 |
| Fawcett | US 2011/0254661 A1 | published Oct. 20, 2011 | 1009 |
| '730 Publication | US 2014/0335730 A1 | published Nov. 13, 2014 | 1010 |

E. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of claims 1–3, 16–20, 23, 28, and 29 of the '358 Patent on the grounds set forth in the table below. Pet. 4–5.

| Claims Challenged | 35 U.S.C. § | Reference(s)/Basis |
|--------------------------|--------------------|--------------------------------------|
| 1–3, 16–18, 29 | 103 | Grant, Marszalek, Wheeler |
| 19, 20, 23, 28 | 103 | Grant, Marszalek, Wheeler, Vogt |
| 1–3, 16, 18 | 103 | Brenner, Marszalek, Wheeler, Fawcett |

| Claims Challenged | 35 U.S.C. § | Reference(s)/Basis |
|-------------------|-------------|--|
| 19, 20, 23, 28 | 103 | Brenner, Marszalek, Wheeler, Fawcett, the '730 Publication, Vogt |

II. ANALYSIS

A claim is unpatentable under 35 U.S.C. § 103 if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which that 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) objective evidence of nonobviousness.² *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In analyzing the obviousness of a combination of prior art elements, it can be important to identify a reason that would have prompted one of skill in the art “to combine . . . known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418. A precise teaching directed to the specific subject matter of a challenged claim is not necessary to establish obviousness. *Id.* Rather, “any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 420.

² In its Preliminary Response, Patent Owner does not present arguments or evidence of secondary considerations. *See generally* Prelim. Resp.

Accordingly, a party who petitions the Board for a determination of unpatentability based on obviousness must provide an “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.* at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

A. Level of Ordinary Skill in the Art

In determining the level of skill in the art, we consider the type of problems encountered in the art, prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field. *See Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986).

Petitioner contends that a person of ordinary skill in the art as of the relevant date would have had “4-5 years of experience working with merchandise security systems and have at least a bachelor’s degree in electrical engineering.” Pet. 5 (citing Ex. 1012 ¶ 13).

Patent Owner contends that the Board should reject Petitioner’s proposal because it lacks any requirement that the skilled artisan have knowledge or experience with “the powering of electronic devices” and “applications using optical communication technology.” Prelim. Resp. 3–4. Patent Owner contends that this subject matter is present in one or more of the challenged claims, and the prior art indicates that a skilled artisan would have had at least some knowledge or experience in these areas. *Id.* at 3–5.

Patent Owner proposes the following alternative level of ordinary skill in the art:

at least a Bachelor of Science degree in electrical engineering, mechanical engineering, materials science, or some equivalent level of education and at least some knowledge or experience with security devices, including alarms and sensors, the powering of electronic devices, and at least some knowledge or experience with applications using optical communication technology.

Prelim. Resp. 5 (citing Ex. 2001, Declaration of Thomas Blackburn (“Blackburn Declaration”) ¶¶ 21–22).

We determine that Patent Owner’s more inclusive proposal regarding the educational level of a person skilled in the art is appropriate, because degrees in electrical engineering, mechanical engineering, materials science, or some equivalent level of education, would provide sufficient background qualifications in light of the technology at issue in the ’358 Patent and the prior art of record.

Further, we agree with both parties that having some experience with security devices, and more particularly with merchandise security devices, is commensurate with the scope of the patent at issue and the prior art. We also agree Patent Owner’s more inclusive proposal regarding the subject areas with which a person of ordinary skill in the art would have had at least some knowledge or experience. For instance, claim 1 recites that the base transfers power to an auxiliary port for powering an auxiliary device.

Ex. 1001, 9:37–38. Dependent claim 19 recites that a cable and sensor “communicate optical signals,” whereas dependent claims 20, 23, and 28

include an “optical transceiver.” *Id.* at 10:41–47, 10:55–58, 11:11–14. This subject matter is also present in the prior art references of record. Thus, we agree with Patent Owner that a person of ordinary skill in the art would have at least some knowledge of or experience with the powering of electronic devices and applications using optical communication technology.

Accordingly, on the present record, and for purposes of this Decision, we determine that one of ordinary skill in the art would have had

at least a Bachelor of Science degree in electrical engineering, mechanical engineering, materials science, or some equivalent level of education, and at least some knowledge or experience with security devices, including alarms and sensors, the powering of electronic devices, and at least some knowledge or experience with the design of merchandise security devices, including related power, alarm, and sensor aspects, and with applications using optical communication technology.

Any final determination pertaining to the level of ordinary skill in the art will be made on the full trial record.³

B. Claim Construction

In an *inter partes* review, 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) (2019). Under this standard, we construe the claim “in accordance with the ordinary and

³ The parties are encouraged to address the impact, if any, of differences in the level of qualifications on the obviousness analysis in any subsequent briefing.

customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.*

Petitioner proposes constructions for four claim terms: “auxiliary device of the article of merchandise;” “auxiliary port;” “operably connected;” and “optical transceiver.” Pet. 6–11. Patent Owner proposes a construction only for the term “auxiliary device of the article of merchandise.” Prelim. Resp. 6. At this juncture, we determine that only the terms “auxiliary device of the article of merchandise” and “optical transceiver” require construction.

1. “*auxiliary device of the article of merchandise*”

Petitioner proposes that we construe the term “auxiliary device of the article of merchandise” as “an electronic device complementary to the article of merchandise.” Pet. 7 (citing Ex. 1012 ¶ 20). Petitioner asserts that, although the ’358 Patent does not define the term “auxiliary device,” it provides the following examples of auxiliary devices: “a stylus, speaker, keyboard, Bluetooth device, etc.” *Id.* (citing Ex. 1001, 5:44–46⁴). Petitioner asserts that the ’358 Patent discloses that these auxiliary devices can be “‘configured to operate with the article of merchandise,’ thereby establishing that an auxiliary device is a device that is *complementary* to the article of merchandise.” *Id.* (quoting Ex. 1001, 10:6–10⁵) (citing Ex. 1012 ¶ 20).

⁴ Petitioner’s reference to Exhibit 1001 at column 5, lines 44–46, appears to be in error because the quoted text “a stylus, speaker, keyboard, Bluetooth device, etc.” is located at column 5, lines 51–52.

⁵ Petitioner’s reference to Exhibit 1001 at column 10, lines 34–38, appears to

Relying on a dictionary definition for the term “auxiliary,” Petitioner additionally asserts that “[t]he ordinary meaning of the term ‘auxiliary’ is ‘giving assistance or support,’ which further confirms that an auxiliary device is a device that is *complementary* to the article of merchandise.” Pet. 7 (quoting Ex. 1011, at 57).

Patent Owner disagrees with Petitioner’s construction, arguing that the term “complementary” does not appear in the ’358 Patent or its prosecution history in connection with “auxiliary device.” Prelim. Resp. 7. Patent Owner argues that definitions of “complementary” suggest it means something required for completeness, and the example auxiliary devices provided in the ’358 Patent “do not fit with these definitions.” Prelim. Resp. 7–8 (citing Ex. 2001 ¶ 26). Patent Owner further argues that “Petitioner’s attempt to substitute ‘complementary’ for ‘auxiliary’ is driven solely by Petitioner’s desire to provide a rationale for . . . combining the Wheeler reference (VPG-1006) with other prior art on the basis that Wheeler uses the term ‘complementary.’” Prelim. Resp. 8.

Patent Owner proposes an alternative construction of the term “auxiliary device of the article of merchandise” as a “device specifically designed to be used by the customer with the article of merchandise.” Prelim. Resp. 6. Patent Owner asserts that the example auxiliary devices identified in the ’358 Patent “are intended for use or functioning with the article of merchandise that is being secured” and are “specifically designed

be in error because the quoted text “configured to operate with the article of merchandise” is located at column 10, lines 6–10.

to be used by the customer with the article of merchandise.” Prelim. Resp. 6–7 (citing Ex. 2001 ¶ 24). Patent Owner also points to claim 10 of the ’358 Patent, which states that the auxiliary devices are “configured to operate with the article of merchandise,” and to the Specification at column 6, lines 6–8, which states: “[T]he auxiliary port 45 allows an auxiliary device to be displayed and used by a prospective customer in connection with an item of merchandise.” Prelim. Resp. 7.

At this juncture, we are not persuaded by Petitioner’s proposed construction, because the term “complementary” injects ambiguity into the construction. The term “complementary” is not used or defined in the ’358 Patent Specification, and this term is itself open to alternative constructions.

We are also not persuaded by Patent Owner’s proposed construction because the term “specifically designed to be used” injects subjectivity, and thus ambiguity, into its proposal. Moreover, the Specification and claims provide several example auxiliary devices, e.g., a stylus, speaker, keyboard, and Bluetooth device (Ex. 1001, 5:46–52, 10:6–10), which are standard electronic devices that have uses with a variety of electronic merchandise. Thus, Patent Owner fails to point us to any intrinsic evidence more persuasive than that cited by Petitioner that auxiliary devices would have to be specifically designed for use with a specific article of merchandise.

The intrinsic record provides an adequate indication of the meaning of “auxiliary device of the article of merchandise.” *See DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (“In determining the meaning of the disputed claim limitation, we look

principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.”) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc)). The Specification states: “The auxiliary port 35 allows an auxiliary device to be displayed and *used* by a prospective consumer *in connection with an item of merchandise . . .*” Ex. 1001, 6:6–8 (emphasis added). Similarly, claim 10 identifies several types of auxiliary devices and indicates that they are “*configured to operate with the article of merchandise.*” Ex. 1001, 10:6–10 (emphasis added). Based on this intrinsic evidence, and for the purposes of this Decision, we construe the term “auxiliary device of the article of merchandise” as a “device configured to operate with an article of merchandise, such as a stylus, speaker, keyboard, or Bluetooth device.”

2. “*optical transceiver*”

Petitioner proposes that we construe the term “optical transceiver” as “an optical receiver and an optical transmitter housed in a single unit with appropriate electrical and optical connectors.” Pet. 10 (citing Ex. 1012 ¶ 26). In support of this proposed construction, Petitioner refers to descriptions in the ’358 Patent and dictionary definitions of “optical transceiver,” “optical receiver,” and “optical transmitter.” Pet. 9–10 (citing Ex. 1001, 6:35–38⁶; Ex. 1014, 347, 674, 676–77). Patent Owner does not

⁶ Petitioner’s reference to Exhibit 1001 at column 6, lines 28–31, appears to be in error because the quoted text “may be used to transmit optical signals in predetermined sequences or pattern and/or receive optical signals and convert the optical signals into electrical signal” is located at column 6, lines 35–38.

address the proposed construction of this claim term. *See generally* Prelim. Resp.

For the purposes of this Decision, we adopt Petitioner’s proposed construction, which is consistent with the term’s use in the ’358 Patent and the ordinary and customary meaning in the art.

We determine that it is not necessary to provide an express construction of any other claim term at this juncture. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)). To the extent an express construction of any claim term is necessary to a final written decision entered in this case, we will resolve that construction based on the full trial record.

*C. Obviousness of Claims 1–3, 16–18, and 29
Over Grant, Marszalek, and Wheeler*

Petitioner contends that claims 1–3, 16–18, and 29 of the ’358 Patent are unpatentable under 35 U.S.C. § 103 as obvious over the combined teachings of Grant, Marszalek, and Wheeler. Pet. 11–38. In support of its contentions, Petitioner explains how this proposed combination teaches or suggests the subject matter of each challenged claim, and provides reasoning as to why one of ordinary skill in the art would have been prompted to modify the teachings of Grant with those of Marszalek and Wheeler. *Id.* Petitioner relies on the declaration of John “Jack” Figh, Jr. (Ex. 1012, “Figh Declaration”) to support its positions.

Patent Owner argues that Petitioner provides insufficient motivation to combine the references. Prelim. Resp. 9–13, 18–22. Patent Owner relies on the Blackburn Declaration (Ex. 2001) to support its positions.

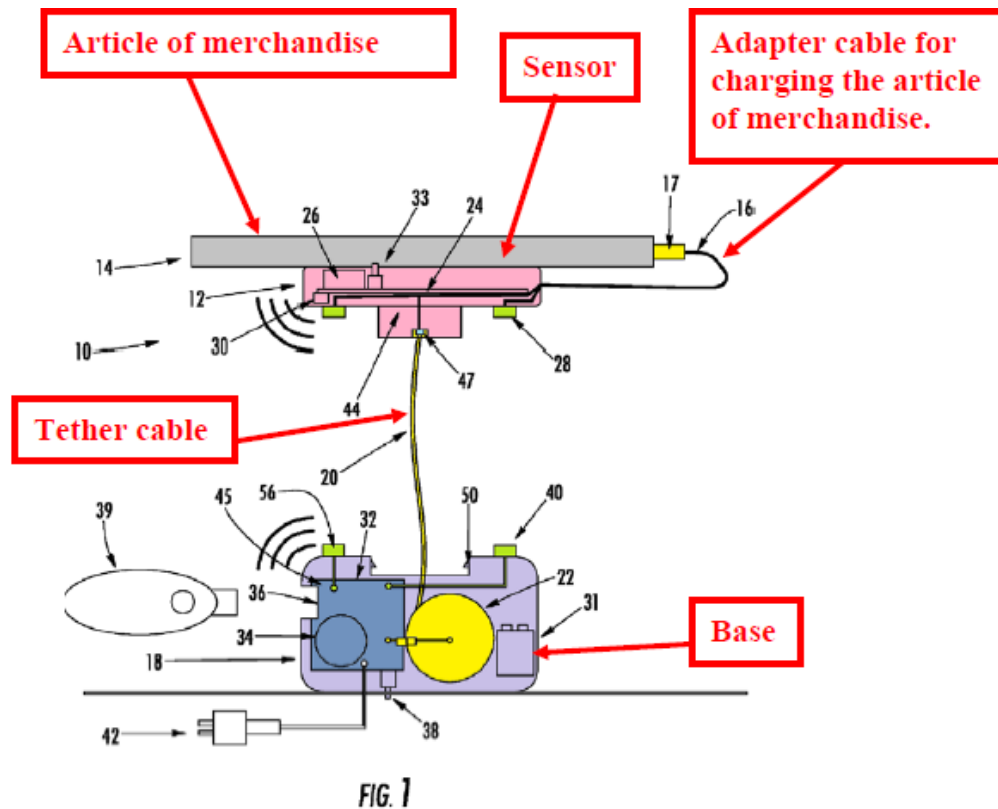
We begin our analysis with a brief overview of Grant, Marszalek, and Wheeler, and then we address the parties’ contentions with respect to the challenged claims.

3. Overview of Grant (Ex. 1004)

Petitioner asserts that Grant qualifies as prior art against the ’358 Patent under 35 U.S.C. § 102(a)(1). Pet. 11.

Grant is “directed to security systems for securing an item of merchandise from theft,” where the system has “a sensor configured to be coupled to the item of merchandise and a base configured to removably support the sensor and the item of merchandise thereon.” Ex. 1004 code (57), ¶ 6. A tether cable operably connects the sensor to the base, and “includes at least one conductor for defining a sense loop,” which may be used to detect various security events, such as “the cable being cut, shorted, and/or disconnected.” Ex. 1004 ¶¶ 6, 7, 17.

Petitioner provides the following annotated version of Grant’s Figure 1 (*see* Pet. 12), which depicts Grant’s security system:



VPG-1004, Figure 1 (annotated)

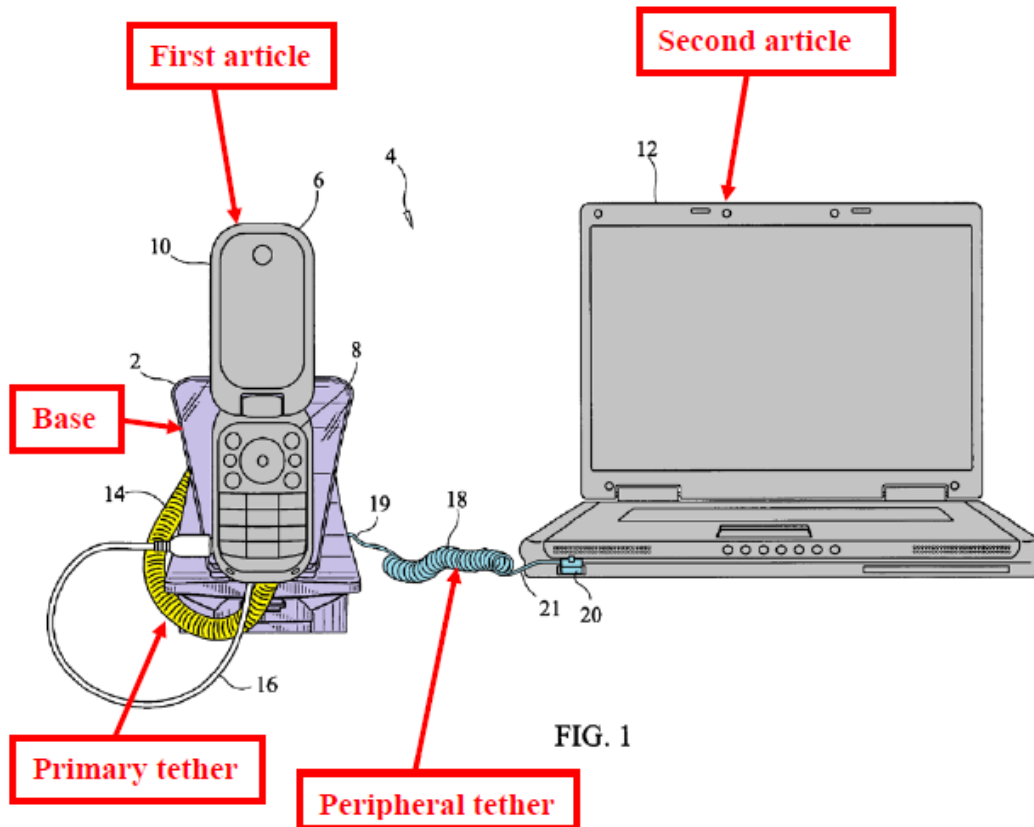
The annotated version of Grant's Figure 1, reproduced above, illustrates, among other things, a sensor secured to an article of merchandise; a cable that electrically connects the sensor to the article of merchandise; and a cable connecting the sensor and the base, which defines a sense loop to detect a security event, such as the cable being cut, shorted, and/or disconnected. *See* Ex. 1004 ¶ 17.

4. Overview of Marszalek (Ex. 1005)

Petitioner asserts that Marszalek qualifies as prior art against the '358 Patent under 35 U.S.C. § 102(a)(1). Pet. 12.

Marszalek is directed to a multi-sensor alarm apparatus for the prevention and/or deterrence of theft or removal of articles from a display stand. Ex. 1005, code (57). A sensor (referred to as a “head unit”) may be attached to a first article of merchandise, and a primary tether cable connects the sensor to a base. Ex. 1005, 1:15–18, 3:10–15. Marszalek discloses that the security system may also have “a peripheral tether and/or a peripheral sensor that may secure a second article, such as, for example, a portable electronic device to the base.” Ex. 1005, 1:21–24. Marszalek teaches that the security system is configured to monitor the integrity of the system components, including the primary and peripheral tethers. Ex. 1005, 3:36–40.

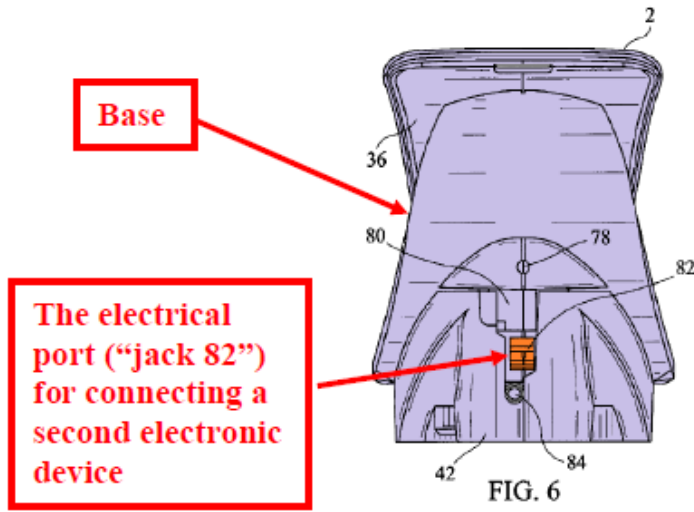
Petitioner provides the following annotated version of Marszalek’s Figure 1 (*see* Pet. 14):



VPG-1005, Figure 1 (annotated)

The annotated version of Marszalek's Figure 1, reproduced above, illustrates, among other things, first and second electronic articles; a base for the first article; and primary and peripheral tethers connecting the first and second articles, respectively, to the base. *See* Ex. 1005, 8:19–40, 8:65–9:1, 11:13–14.

Marszalek teaches that the base has an electrical port ("jack 82") for receiving one end the peripheral tether that secures a second electronic article. Ex. 1005, 11:32–36. Petitioner provides the following annotated version of Marszalek's Figure 6 (*see* Pet. 15), which depicts the electrical port:



VPG-1005, Figure 6 (annotated)

The annotated version of Marszalek's Figure 6 reproduced above illustrates the electrical port ("jack 82") disposed in the base.

5. Overview of Wheeler (Ex. 1006)

Petitioner asserts that Wheeler qualifies as prior art against the '358 Patent under 35 U.S.C. § 102(a)(1). Pet. 15.

Wheeler relates to security/alarm systems that "protect against theft in retail environments" and secure multiple "complementary products."

Ex. 1006 ¶¶ 1, 49. Wheeler teaches that the systems have sensor security cables that can be used to secure a number of products, such as a tablet and keyboard/docking station. Ex. 1006 ¶ 49.

Wheeler's Figure 6, reproduced below, depicts the multi-cable configuration of Wheeler for securing complementary products:

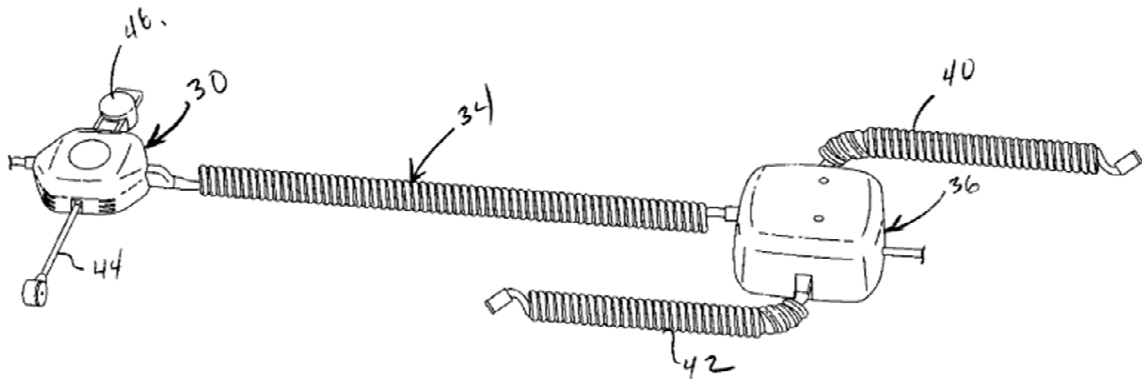


Fig. 6

Wheeler's Figure 6, reproduced above, illustrates puck (30) coupled to anchor mount (36) via power/security cord (34), and two additional security sensor cables (40, 42) connected to the anchor mount, for securing complementary electronic devices. *See* Ex. 1006 ¶¶ 48–49.

6. Claim 1

The preamble of claim 1 recites “[a] merchandise security system for displaying and protecting an article of merchandise and an auxiliary device of the article of merchandise from theft.” Ex. 1001, 9:26–28. To the extent the preamble is limiting, Petitioner contends that Grant discloses “security systems for securing an item of merchandise from theft or unauthorized removal.” Pet. 20 (citing Ex. 1004 ¶ 2). Petitioner asserts that, while Grant's system secures only a single article of merchandise, there was a known market need, as expressly stated in Marszalek, for a system for securing two or more articles. Pet. 17 (citing Ex. 1005, 2:31–33, “[A] need exists for a multi-sensor alarm apparatus, a system and/or a method for securing two or more articles in a self-contained, all-in-one

configuration.”). Petitioner further asserts that “[t]o address the known market need stated above, a POSA [(person of ordinary skill in the art)] would have been motivated to improve the security device disclosed in Grant, such that it could be used to secure two or more articles of merchandise—this motivation would have led to Marszalek and Wheeler.” Pet. 17 (citing Ex. 1012 ¶ 37). Accordingly, Petitioner asserts that the combination of Grant, Marszalek, and Wheeler teaches the preamble of claim 1. Pet. 20 (citing Ex. 1012 ¶ 66).

Claim 1 further recites “a sensor that is secured to the article of merchandise and that detects removal of the article of merchandise from the sensor.” Ex. 1001, 9:29–31. Petitioner states that “Grant discloses ‘a sensor 12 configured to be secured to an item of merchandise 14,’ such that ‘[t]he sensor 12 may detect security events associated with the sensor and/or the item of merchandise 14, such as the item of merchandise being removed from the sensor.’” Pet. 21 (quoting Ex. 1004 ¶ 17). Petitioner provides the following annotated version of Grant’s Figure 5, which shows the article of merchandise and the sensor (*see* Pet. 21):

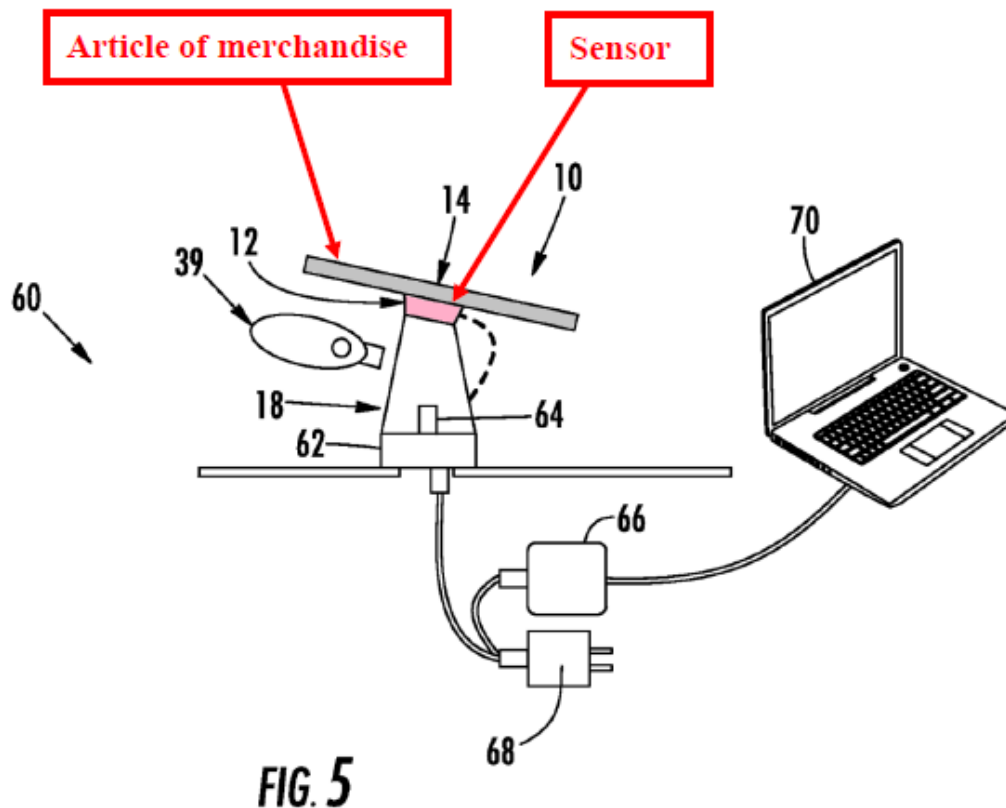
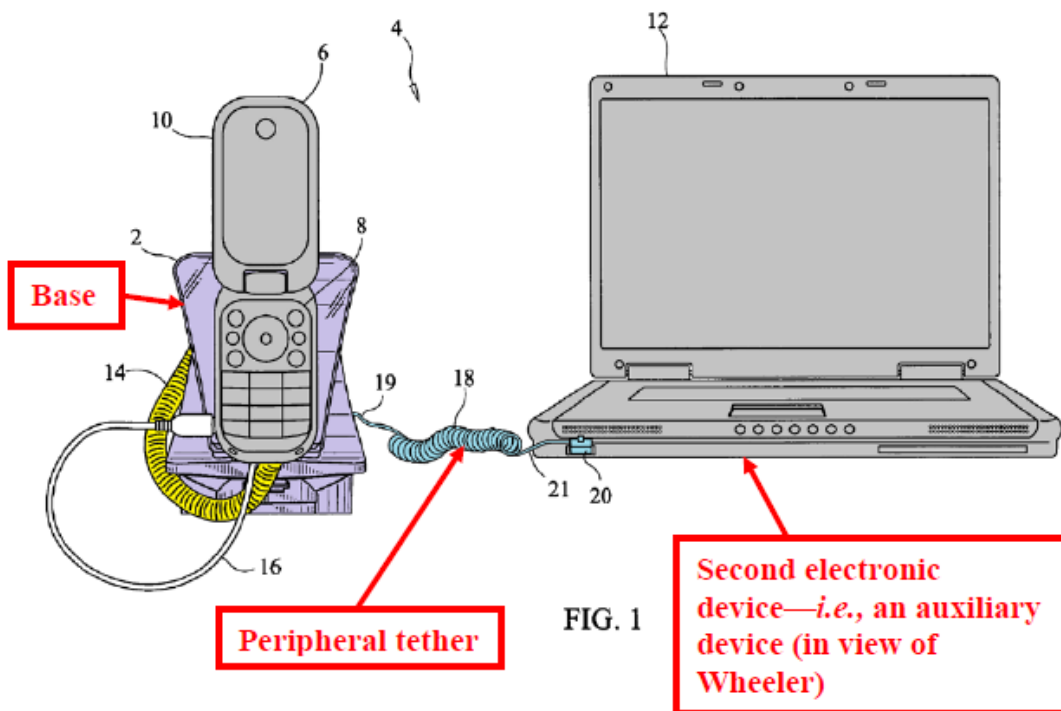


FIG. 5
VPG-1004 Figure 5 (annotated)

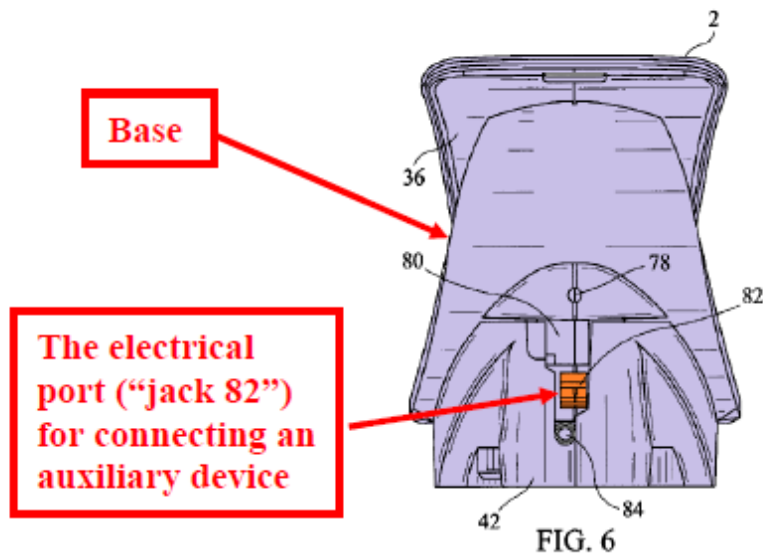
The annotated version of Grant’s Figure 5, reproduced above, illustrates, among other things, the article of merchandise and the sensor in Grant’s merchandise security system.

Claim 1 further recites “a base that removably supports the sensor and the article of merchandise thereon.” Ex. 1001, 9:32–33. According to Petitioner, “Grant discloses that “[t]he security system 10 may also include a base 18 that is configured to removably support the sensor 12 and the item of merchandise 14 thereon.”” Pet. 22 (emphasis omitted) (quoting Ex. 1004 ¶ 17). Base 18, sensor 12, and item of merchandise 14 are visible in the annotated version of Grant’s Figure 5 reproduced above.

Claim 1 additionally recites “wherein the base further comprises an auxiliary port that operably connects to the auxiliary device.” Ex. 1001, 9:33–35. Petitioner asserts that Marszalek teaches a base having an electrical port (“jack 82”) configured to receive a connector of a peripheral tether, for securing an auxiliary device. Pet. 23 (citing Ex. 1005, 11:32–35 (“[t]he first end 19 of the peripheral tether cable 18 may have a network plug, such as, for example, an RJ-45 plug that may be received by a jack 82”)); *id.* at 25. Petitioner provides the following annotated version of Marszalek’s Figures 1 and 6 (*see* Pet. 24):



VPG-1005, Figure 1 (annotated)



VPG-1005, Figure 6 (annotated)

These annotated versions of Marszalek's Figures 1 and 6, reproduced above, illustrate, among other things, the base, a peripheral tether connecting a second electronic device, and an electrical port for receiving one end of the peripheral tether. *See* Pet. 24.

Petitioner contends that it would have been obvious to modify the base taught in Grant by adding the electrical port (i.e., "auxiliary port") of Marszalek, which is configured to receive the peripheral cable for securing an auxiliary device. Pet. 25 (citing Ex. 1012 ¶ 70). Petitioner further argues that, with respect to the claim term "operably connect," "Marszalek, in view of Wheeler, teaches that one end of the peripheral tether is connected to the base while the opposite end is connected to the peripheral sensor attached to an auxiliary device," where the system is configured to

detect “if the tether is cut, removed and/or tampered with.” Pet. 25–26 (citing Ex. 1005, 11:32–43, 1:61-64; Ex. 1012 ¶ 71).

Claim 1 further recites “a cable operably connected to the sensor and the base.” Ex. 1001, 9:36. Petitioner contends that “Grant discloses that ‘the security system includes a cable connected to the sensor at one end and connected to the base at an opposite end, wherein the cable includes at least one conductor for defining a sense loop.’” Pet. 26 (quoting Ex. 1004 ¶ 7). The sense loop can detect security events such as the cable being cut, shorted, and/or disconnected. Pet. 26 (citing Ex. 1004 ¶¶ 17, 23, 33–34; Ex. 1012 ¶¶ 73, 74).

Claim 1 also recites “wherein the base transfers power to the auxiliary port for powering the auxiliary device.” Ex. 1001, 9:37–38. Petitioner contends that Marszalek in view of Wheeler discloses that the base is configured to transfer power to a peripheral sensor attached to an auxiliary device. Pet. 27 (citing Ex. 1005, 11:13–20 (disclosing that “[t]he peripheral tether cable 18 may communicate power and/or data between the main body 36 [of the base assembly] and the peripheral sensor 20”)). Petitioner further asserts that “Grant teaches that power can be transferred from a sensor to an electronic device to which the sensor is attached using an adapter cable.” Pet. 27–28 (citing Ex. 1004 ¶ 17). Petitioner argues that “it would have been obvious to use an adapter cable to electrically connect the peripheral sensor to the auxiliary device to enable power transfer from the base to the auxiliary device,” and that a person of ordinary skill in the art would have been motivated to do so because, as Marszalek itself

recognizes, “[m]any [devices] require power connections and/or data connections to allow an operational interaction between the consumer and the [devices].” Pet. 28 (quoting Ex. 1005 at 1:51–54) (citing Ex. 1012 ¶¶ 75–78).

Finally, claim 1 recites “wherein a security signal is transmitted through the auxiliary port that is used to detect removal of the auxiliary device from the base.” Ex. 1001, 9:39–41. Petitioner contends that Grant discloses using a sense loop to detect security events, and the security system attained by combining Grant, Marszalek, and Wheeler would include an auxiliary port configured to receive an input connector of a peripheral tether cable for securing an auxiliary device. Pet. 28–29 (citing Ex. 1004 ¶¶ 7, 17, 31; Ex. 1012 ¶¶ 80–82).

We have reviewed the current record, including the Preliminary Response, and find that the information presented in the Petition establishes a reasonable likelihood that Petitioner would prevail in showing that the combination of Grant, Marszalek, and Wheeler renders claim 1 obvious. Petitioner’s arguments are adequately supported, for example, by disclosures in these references and declaration testimony, in which Mr. Figh explains how those disclosures read on the limitations of claim 1. Accordingly, we find that Petitioner has demonstrated a reasonable likelihood that it would prevail at trial in showing that at least one claim of the ’358 Patent is unpatentable, and we institute review on that basis. *See* 35 U.S.C. § 314(a) (articulating the threshold showing required to support trial institution). We address Patent Owner’s arguments below.

Patent Owner argues that Petitioner has failed to present evidence that a person of ordinary skill in the art would have combined Grant's adapter cable with the peripheral sensor of Marszalek, or that a person of ordinary skill in the art would have had a reasonable expectation of success in doing so. Prelim. Resp. 9–13. Specifically, Patent Owner asserts that a skilled artisan would not have believed that Marszalek's peripheral sensor is provided with power that can be used to power an auxiliary device.⁷ Prelim. Resp. 9–13 (citing Ex. 2001 ¶¶ 30, 33–37; Ex. 1005, 11:18–26). Patent Owner acknowledges Marszalek's teaching that the tether cable may communicate power to the sensor (Prelim. Resp. 11, citing Ex. 1005, 11:24–26), but argues that nothing in Marszalek teaches or suggests that the power in the sensor is actually powering, or is sufficient to power, the second device (Prelim. Resp. 11–13).

Patent Owner argues that, in Marszalek's Figure 1, peripheral sensor 20 is simply attached to the front of a laptop computer, which "typically does not have a power connection along the front." Prelim. Resp. 11 (citing Ex. 2001 ¶ 33). Patent Owner also argues that a person of ordinary skill in the art would have understood that the power requirements for various devices would be different than that for a peripheral sensor, and Marszalek

⁷ Patent Owner additionally applies this same argument to "Ground Two," i.e., Petitioner's challenge of claims 19, 20, 23, and 28 as obvious over the combination of Grant, Marszalek, Wheeler, and Vogt. *See* Prelim. Resp. 9. Our analysis of Patent Owner's argument applies equally to Petitioner's challenge of claims 19, 20, 23, and 28 as obvious over the combination of Grant, Marszalek, Wheeler, and Vogt.

discloses neither providing power for auxiliary devices nor adjusting power for the different requirements for different auxiliary devices. Prelim. Resp. 12–13 (citing Ex. 2001 ¶¶ 34–35). Patent Owner additionally asserts that “whether Grant teaches power can be transferred from a sensor to an electronic device as Petitioner asserts (Petition at 27–28) is immaterial because a POSA [person of ordinary skill in the art] would understand that Marszalek’s peripheral sensor is not provided with power for transferring to an auxiliary device.” Prelim. Resp. 13 (citing Ex. 2001 ¶ 36).

On this record, we are not persuaded by Patent Owner’s arguments. Petitioner relies on Marszalek’s teaching that “peripheral tether cable 18 may communicate power and/or data between the main body 36 and the peripheral sensor 20.” Pet. 27 (quoting Ex. 1005, 11:24–26). Petitioner further relies on Grant’s teaching of a sensor that transfers power to the electronic device, stating: “[i]n turn, Grant teaches that power can be transferred from a sensor to an electronic device to which the sensor is attached using an adapter cable.” Pet. 27–28 (citing Ex. 1004 ¶ 17; Ex. 1012 ¶¶ 75–76). Patent Owner’s argument that Marszalek’s teachings are insufficient by themselves fails to recognize that Petitioner’s contentions are based on the combined teachings of Grant and Marszalek. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“ . . . the test [for obviousness] is what the combined teachings of those references would have suggested to those of ordinary skill in the art”). Although Patent Owner argues that Marszalek’s sensor does not provide power to a peripheral device, Petitioner relies upon Grant for this teaching, and Patent

Owner has not persuasively argued that Grant lacks a teaching that its sensor can power an electronic device.

Patent Owner additionally argues that, “[a]ssuming *arguendo* Petitioner is correct regarding a market need for a system and/or method for securing two or more articles, such does not provide a rationale for combining Grant with both Marszalek and Wheeler.”⁸ Prelim. Resp. 18.

Patent Owner asserts:

As admitted by Petitioner, Marszalek discloses a device for securing a second article – i.e. two or more articles. Petition at 17–18 (citing Marszalek), and Petitioner is combining such with Grant in Grounds 1 and 2. As such, there is no reason a POSA [person of ordinary skill in the art] would look further to Wheeler because Petitioner’s rationale of “securing *two or more* articles” is satisfied by the combination of just Grant and Marszalek, and Petitioner provides no evidence of a rationale for further combining Wheeler.

In fact, a POSA [person of ordinary skill in the art] would not make the addition of Wheeler to the combination of Grant and Marszalek because such would be redundant.

Prelim. Resp. 19. Patent Owner asserts that “the rationale of adding Wheeler to Grant and Marszalek simply because Wheeler secures a ‘complementary device’ that Petitioner equates with the ‘auxiliary device’

⁸ Patent Owner additionally applies this same argument to “Ground Two,” i.e., Petitioner’s challenge of claims 19, 20, 23, and 28 as obvious over the combination of Grant, Marszalek, Wheeler, and Vogt. *See* Prelim. Resp. 18. Our analysis of Patent Owner’s argument applies equally to Petitioner’s challenge of claims 19, 20, 23, and 28 as obvious over the combination of Grant, Marszalek, Wheeler, and Vogt.

of claim 1 is a classic example of impermissible hindsight.” Prelim. Resp. 21.

We are not persuaded by Patent Owner’s arguments. Although Marszalek and Wheeler both disclose the use of multiple sensors in a security system, Petitioner relies on different aspects of the references’ teachings for different purposes. As discussed above, under Petitioner’s assertions, Marszalek’s teachings are relied upon for teaching a system with a peripheral tether and peripheral sensor to secure a second article, and Wheeler’s teachings are relied upon for teaching that the second security sensors are used on complementary products such as keyboards and docking stations. Thus, at this juncture, we do not find Petitioner’s reliance on Marszalek and Wheeler to be redundant. Further, we determine that Wheeler’s teachings on complementary products for merchandise support are sufficient to teach an “auxiliary device of the article of merchandise” under the claim construction adopted for the purposes of this Decision. Finally, we are not persuaded at this juncture that hindsight has been applied in the combination with Wheeler because Mr. Figh’s testimony that a person of ordinary skill would have been motivated to make the combination is supported by Wheeler’s disclosure that the use of complementary auxiliary devices would be desirable. *See* Ex. 1006 ¶ 49; Ex. 1012 ¶ 39.

As explained above, we find that Petitioner has demonstrated a reasonable likelihood that it would prevail at trial in showing that at least one claim of the ’358 Patent is unpatentable, and thus we institute review

on that basis. In the interest of completeness, and to provide guidance to the parties, we provide below our analysis of the remaining claims and challenges.

7. Dependent Claims 2, 3, 16–18, and 29

We have reviewed Petitioner’s contentions with respect to dependent claims 2, 3, 16–18, and 29. Petitioner directs us to information supporting the view that these claims would have been obvious over the teachings of Grant, Marszalek, and Wheeler. *See* Pet. 30–38. At this stage, Patent Owner does not separately address Petitioner’s explanations and supporting evidence as to how the teachings of Grant, Marszalek, and Wheeler account for the limitations of these dependent claims. *See generally* Prelim. Resp. Accordingly, Petitioner has demonstrated a reasonable likelihood that it would prevail on its assertions that claims 2, 3, 16–18, and 29 would have been obvious over the teachings of Grant, Marszalek, and Wheeler.

*D. Obviousness of Claims 19, 20, 23, and 28
Over Grant, Marszalek, Wheeler, and Vogt*

Petitioner contends that claims 19, 20, 23, and 28 of the ’358 Patent are unpatentable under 35 U.S.C. § 103 as obvious over Grant, Marszalek, Wheeler, and Vogt. Pet. 39–49. Petitioner contends that the combined teachings of these references account for the subject matter of each challenged claim, and provides reasoning as to why one of ordinary skill in the art would have been prompted to modify or combine the teachings of these references. *Id.* Petitioner also relies on the Figh Declaration to support its positions.

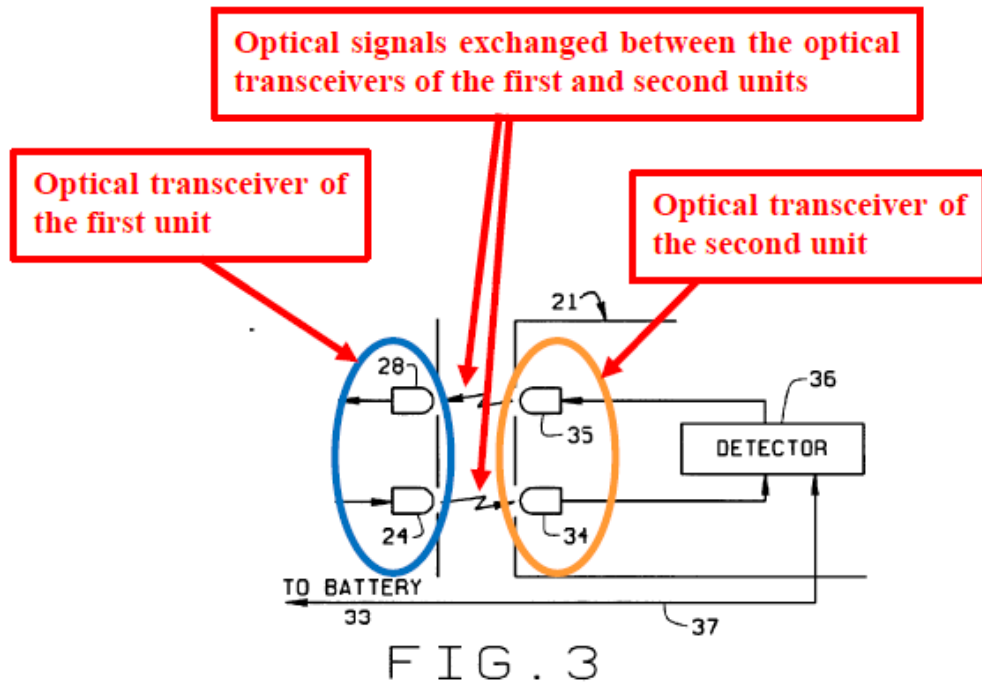
Patent Owner argues that Petitioner provides insufficient motivation to combine the references. Prelim. Resp. 9–13, 18–25. Patent Owner also relies upon the Blackburn Declaration (Ex. 2001) to support its positions.

We begin our analysis with a brief overview of Vogt, then we address the parties' contentions.

1. Overview of Vogt (Ex. 1008)

Petitioner asserts that Vogt qualifies as prior art against the '358 Patent under 35 U.S.C. § 102(a)(1). Pet. 39.

Vogt discloses a security system for monitoring the relative displacement between two objects normally located adjacent to, or in close proximity of, each other. Ex. 1008, 1:14–17. Petitioner provides the following annotated version of Vogt's Figure 3 (*see* Pet. 40), which depicts an embodiment of the system using optical transceivers to communicate the displacement between the two objects:



VPG-1008, Figure 3 (annotated)

The annotated version of Vogt's Figure 3, reproduced above, illustrates, among other things, optical transceivers of first and second units, and the optical signals exchanged between these transceivers. *See* Ex. 1008, 5:41–55. The system monitors the signal transmitted between the two transceivers, and is sensitive to the receipt or absence of a signal, which can trigger an alarm. *See, e.g.,* Ex. 1008, 2:33–43. Petitioner provides the following annotated version of Vogt's Figure 9B (*see* Pet. 41), which depicts an embodiment of the system used to monitor a boat moored in a slip:

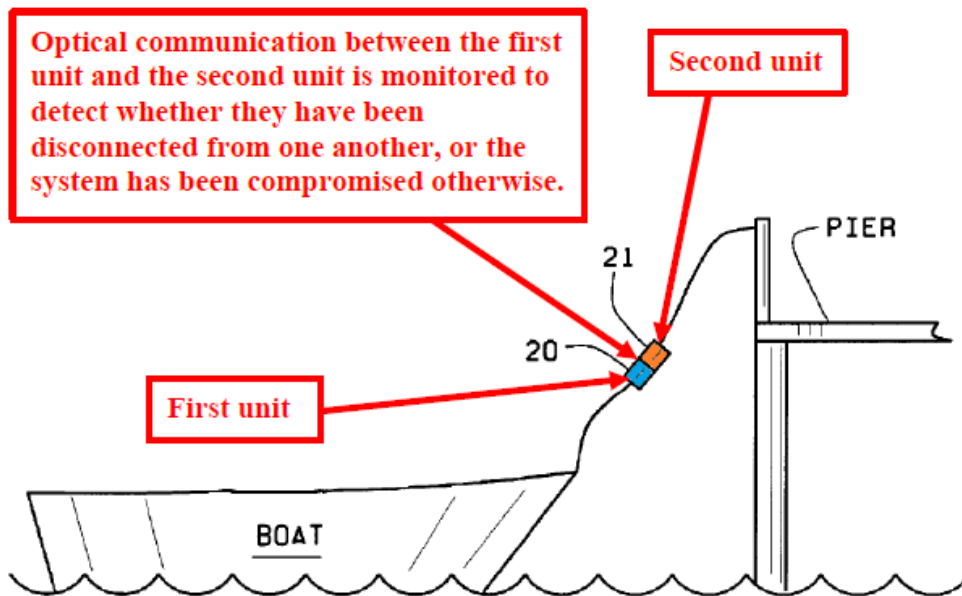


FIG. 9B

VPG-1005, Figure 9B (annotated)

The annotated version of Vogt's Figure 9B 5, reproduced above, illustrates a system for monitoring a boat, comprising sensor unit 20 attached to a boat and second sensor unit 21 attached to a pier, where the sensors are in optical communication. *See* Ex. 1008, 8:55–57, 5:64 (noting that optical sensors are incorporated in units 20, 21).

2. Claims 19, 20, 23, and 28

Claim 19 depends from claim 1, and further recites that “the cable and the sensor communicate optical signals with one another for detecting a security event associated with the sensor, the cable, or the item of merchandise.” Ex. 1001, 10:41–44. Claim 20 depends from claim 1, and further recites that “an end of the cable comprises an optical transceiver for

communicating optical signals with the sensor.” Ex. 1001, 10:45–47.

Claim 23 depends from claim 20, and further recites that “the sensor comprises an optical transceiver for communicating optical signals with the optical transceiver of the cable.” Ex. 1001, 10:55–58. Claim 28 depends from claim 23, and further recites that “the optical transceiver of the cable is configured to communicate with the optical transceiver of the sensor for detecting disconnection of the cable from the sensor.” Ex. 1001, 11:11–14.

Petitioner asserts that a person of ordinary skill in the art “would have been motivated to use the optical sensing technique of Vogt in the security system of Grant and would have had a reasonable expectation that this combination would yield a functional security system operable for its intended purpose.” Pet. 44. Specifically, Petitioner asserts that, because “Grant illustrates multiple non-limiting, interchangeable sensing techniques for determining whether the tether cable has been cut or disconnected,” a person of ordinary skill in the art would have understood that “Grant is not limited to the sensing examples listed in its specification and could potentially be improved by employing a different sensing technique.” Pet. 42 (citing Ex. 1004 ¶¶ 17, 23, 32–35, 43; Ex. 1012 ¶ 47).

Petitioner asserts that a person of ordinary skill in the art “would have been motivated to look at other security systems configured to monitor the integrity of cable connection,” which “would have led to Vogt.” Pet. 42–43. According to Petitioner, Vogt provides “a security system having an enhanced monitoring capability and which provides users the absolute highest level of assurances.” Pet. 42–43 (quoting Ex. 1014,

2:54–56, 8:14–15; citing Ex. 1004 ¶ 43, Ex. 1012 ¶ 48). Petitioner asserts that based on Vogt’s “laudatory statements,” a skilled artisan would have been motivated to use Vogt’s sensing technique to monitor the connection between the tether cable and the sensor in Grant’s security system. Pet. 43 (citing Ex. 1012 ¶ 48).

Patent Owner argues that Petitioner “submits no evidence of a problem, market pressure or need that would lead a POSA [person of ordinary skill in the art] to modify Grant,” and “provides no evidence of anything in Grant that needs improvement or evidence that adding Vogt actually results in an improvement.” Prelim. Resp. 23. Patent Owner further argues that a skilled artisan would not have made Petitioner’s proposed combination of Grant and Vogt because it would be redundant, in that Grant and Vogt both monitor the connection between the tether cable and the sensor. Prelim. Resp. 24–25.

We agree with Patent Owner that Petitioner’s expert offers little evidence in support of a rationale to combine. Prelim. Resp. 22. Petitioner appears to ground its argument in a skilled artisan’s purported understanding that Grant’s system “*could potentially* be improved by employing a different sensing technique.” Pet. 42 (emphasis added). Thus, Petitioner’s argument appears to be based on whether an ordinarily skilled artisan “could” have improved Grant’s system, without sufficient reasoning with a rationale underpinning explaining *why* that artisan would have done so. On the other hand, it is undisputed that Grant states that different sensor techniques may be used, and Vogt generally alleges that an embodiment of

its invention offers enhanced monitoring capability, and this provides some support of a rationale to combine. At this juncture, Mr. Figh provides testimony on why one of ordinary skill in the art would have been motivated to combine the references, which stands unrebutted. We would welcome additional briefing from the parties in the Response, Reply, and Sur-Reply as to whether the Petition provides sufficient evidence to support that a person of ordinary skill in the art would have been motivated to integrate Vogt's optical transceivers in Grant based upon Vogt's representations on improvements. *See KSR*, 550 U.S. at 417 (“[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.”).

Having decided herein that Petitioner satisfies the reasonable likelihood threshold standard for institution on other grounds as to at least one challenged claim, we also institute review on this asserted ground. *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1355–56 (2018) (stating that a decision to institute under 35 U.S.C. § 314(b) may not institute review on fewer than all claims challenged in the petition); Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019) (“Consolidated Trial Practice Guide”)⁹ at 5 (“In instituting a trial, the Board will either (1) institute as to all claims challenged in the petition and on all grounds in the petition, or (2)

⁹ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

institute on no claims and deny institution.”).

*E. Obviousness of Claims 1–3, 16, and 18 Over
Brenner, Marszalek, Wheeler, and Fawcett*

Petitioner contends that claims 1–3, 16, and 18 of the ’358 Patent are unpatentable under 35 U.S.C. § 103 as obvious over Brenner, Marszalek, Wheeler, and Fawcett. Pet. 49–70. In support of its contentions, Petitioner explains how this proposed combination teaches or suggests the subject matter of each challenged claim, and provides reasoning as to why one of ordinary skill in the art would have been prompted to modify the teachings of Brenner with those of Marszalek, Wheeler, and Fawcett. *Id.* Petitioner also relies on the Figh Declaration to support its positions.

Patent Owner argues that Petitioner provides insufficient motivation to combine the references. Prelim. Resp. 13–17, 25–29. Patent Owner also relies upon the Blackburn Declaration (Ex. 2001) to support its positions.

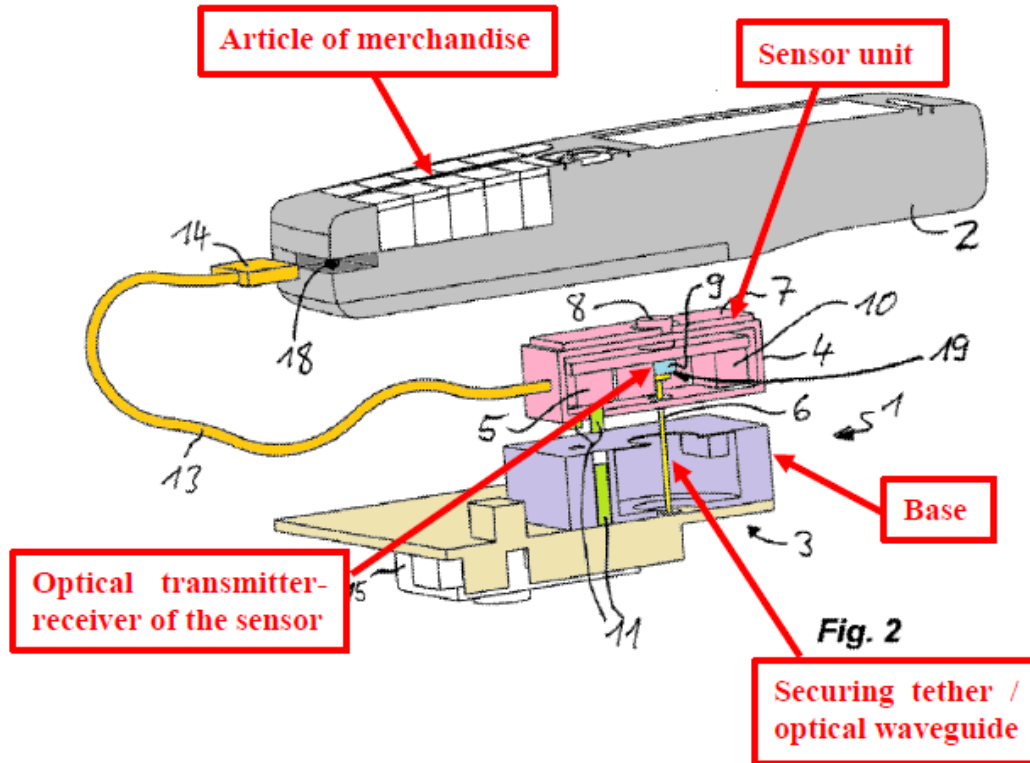
We begin our analysis with a brief overview of Brenner and Fawcett, then we address the parties’ contentions with respect to the challenged claims.

1. Overview of Brenner (Ex. 1007)

Petitioner asserts that Brenner qualifies as prior art against the ’358 Patent under 35 U.S.C. § 102(a)(1). Pet. 49–50.

Brenner “relates to an apparatus for securing objects, more particularly exhibited goods, against unauthorized taking.” Ex. 1007, 1. Brenner’s apparatus comprises a base and a sensor, which are connected to each other by means of a securing tether. *Id.* Petitioner provides the

following annotated version of Brenner's Figure 2 (*see* Pet. 50), which depicts the apparatus:



VPG-1007, Figure 2 (annotated)

The annotated version of Brenner's Figure 2, reproduced above, illustrates, among other things, the article of merchandise, the sensor, the base, and the securing tether that connects the sensor to the base.

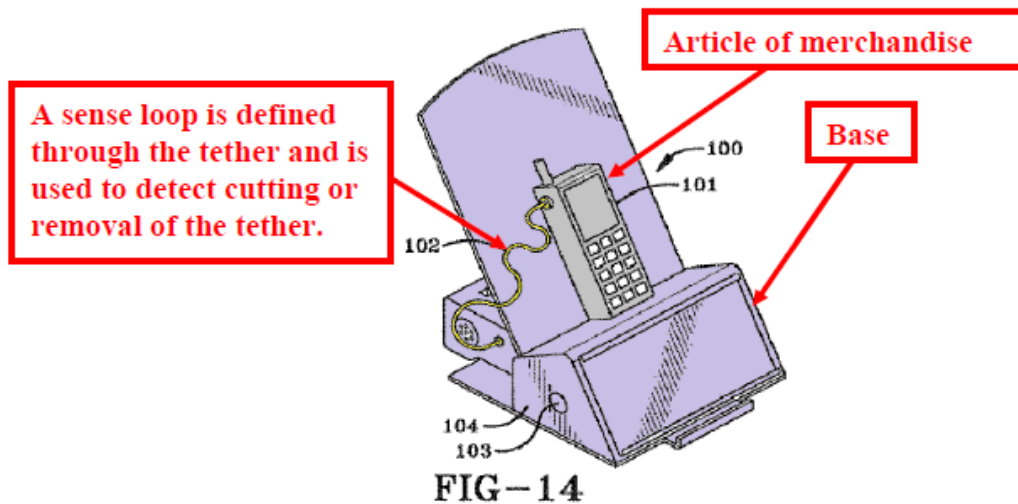
Brenner states that “[t]he securing tether performs two functions: first, the mechanical connection between the base unit and the sensor unit and therefore the object to be secured; second, the signal transfer between the sensor [sic] unit and the base unit by means of the optical waveguide.” Brenner 2–3. Brenner further states: “In comparison with previously known

securing devices, 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.” Brenner 3.

2. *Overview of Fawcett (Ex. 1009)*

Petitioner asserts that Fawcett qualifies as prior art against the ’358 Patent under 35 U.S.C. § 102(a)(1). Pet. 51.

Fawcett discloses a “security system and method for protecting an item of merchandise.” Ex. 1009, code (57). The system includes a cable that defines a “sense loop” for detecting security events associated with the cable, such as cutting of the cable, pulling the cable loose from the base or the sensor, or removing the cable from its connection jack within the base. Ex. 1009 ¶ 60. Fawcett discloses that “sense loops extending between the [base] . . . and the item of merchandise may be formed of an electrical conductor or fiber optic conductor located within an outer mechanical attachment cable.” Ex. 1009 ¶ 23. Petitioner provides the following annotated version of Figure 14 of Fawcett (*see* Pet. 52), which depicts a system having a cable through which a sense loop is defined:



VPG-1009, Figure 14 (annotated)

The annotated version of Fawcett’s Figure 14, reproduced above, illustrates, among other things, a product display security system comprising an item of merchandise, a housing (base), and a cable containing a sense loop, where the cable connects the item of merchandise to the base. Ex. 1009 ¶ 73.

3. Claim 1

The preamble of claim 1 recites “[a] merchandise security system for displaying and protecting an article of merchandise and an auxiliary device of the article of merchandise from theft.” Ex. 1001, 9:26–28. To the extent the preamble is limiting, Petitioner contends that Brenner discloses “an apparatus for securing objects, more particularly exhibited goods, against unauthorized taking.” Pet. 56 (citing Ex. 1007, 1).

Petitioner further asserts that there was a known market need, as stated in Marszalek, for a system for securing two or more articles. Pet. 53 (citing Ex. 1005, 2:31–33). Petitioner further asserts that a person of

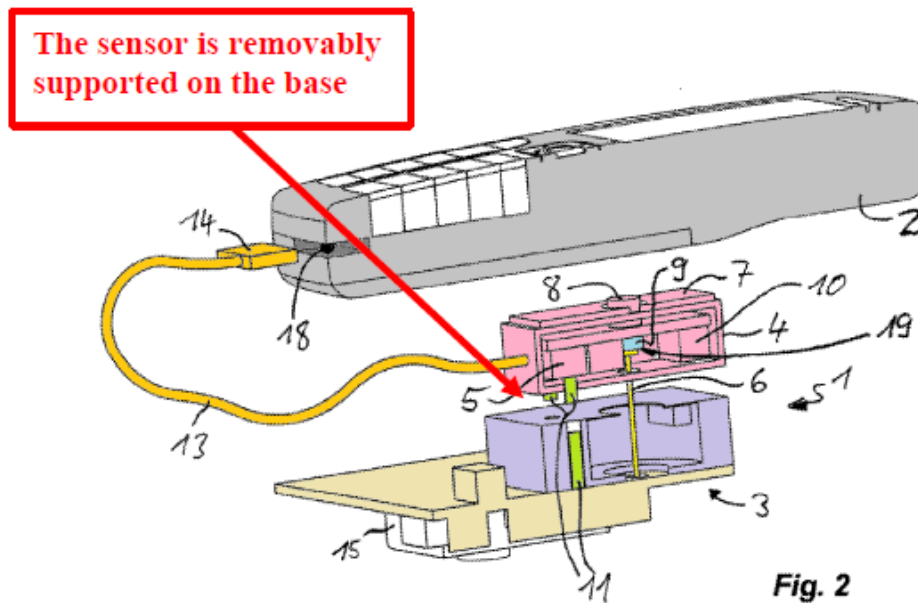
ordinary skill in the art would have been motivated to combine Brenner and Marszalek “to attain an improved security system capable of securing multiple articles of merchandise,” by disposing an electrical port taught in Marszalek in the base of Brenner, “thereby enabling the security device to utilize a peripheral tether cable (as taught in Marszalek) to secure a second electronic device.” Pet. 53–54 (citing Ex. 1012 ¶ 56). Petitioner further asserts that a person of ordinary skill in the art would have been motivated to “adapt the security system to simultaneously secure an article of merchandise and its complementary auxiliary device, as taught in Wheeler.” Pet. 54 (citing Ex. 1006 ¶ 49¹⁰; Ex. 1005, 8:37–39; Ex. 1012 ¶ 57. Accordingly, Petitioner asserts that the combination of Brenner, Marszalek, and Wheeler teaches the preamble of claim 1. Pet. 56 (citing Ex. 1012 ¶ 97, Ex. 1007, 1).

Claim 1 further recites “a sensor that is secured to the article of merchandise and that detects removal of the article of merchandise from the sensor.” Ex. 1001, 9:29–31. Petitioner states that, in Brenner, “[t]he sensor unit for securing the object is connected to the object.” Pet. 56 (quoting Ex. 1007, 2).

Claim 1 further recites “a base that removably supports the sensor and the article of merchandise thereon.” Ex. 1001, 9:32–33. Petitioner

¹⁰ Petitioner’s reference to Exhibit 1005 at paragraph 49 appears to be in error because Marszalek does not use paragraphs, but rather uses columns and line numbers. Because the citation Petitioner provides occurs immediately after a sentence that explicitly references Wheeler, we presume that Petitioner intended to reference Exhibit 1006 at paragraph 49.

provides the following annotated version of Brenner's Figure 2 (*see* Pet. 57):



VPG-1007, Figure 2 (annotated)

The annotated version of Brenner's Figure 2, reproduced above, illustrates, among other things, the sensor in a lifted position relative to the base.

Claim 1 further recites "wherein the base further comprises an auxiliary port that operably connects to the auxiliary device." Ex. 1001, 9:33–35. Petitioner asserts that Marszalek teaches a base having an electrical port ("jack 82") configured to receive a connector of the peripheral tether, for securing an auxiliary device. Pet. 58 (citing Ex. 1005, 3:27–30, 11:32–35; Ex. 1012 ¶ 100). Similar to its arguments based on the combination of Grant, Marszalek, and Wheeler, Petitioner provides annotated versions of Marszalek Figures 1 and 6, highlighted to show the

base, peripheral tether connecting a second electronic device, and electrical port for receiving one end of the peripheral tether. *See* Pet. 59.

Petitioner contends that it would have been obvious to modify Grant's base by adding Marszalek's electrical port (i.e., "auxiliary port"), which is configured to receive the peripheral cable for securing an auxiliary device. Pet. 60 (citing Ex. 1012 ¶ 101). Petitioner further argues that, with respect to the claim limitation "operably connect," "Marszalek, in view of Wheeler, teaches that one end of the peripheral tether is connected to the base while the opposite end is connected to the peripheral sensor attached to an auxiliary device," and the system is configured to detect "if the tether is cut, removed and/or tampered with." Pet. 60 (citing Ex. 1005, 11:32–43, 3:34–40; Ex. 1012 ¶ 102).

Claim 1 further recites "a cable operably connected to the sensor and the base." Ex. 1001, 9:36–37. Petitioner asserts that Brenner in view of Fawcett teaches this limitation. According to Petitioner, Brenner discloses a base unit and a sensor unit connected by a securing tether that has an optical waveguide. Pet. 61 (citing Ex. 1007, 1, 2). Petitioner contends that "it would have been obvious to define a sense loop through the optical waveguide within the securing tether, as taught in Fawcett." Pet. 62 (citing Ex. 1009 ¶ 23). According to Petitioner, "[t]he sense loop could be established by programming the sensor to transmit optical security signals to the base via the optical waveguide within the securing tether, with the base interpreting a failure to receive an expected security signal as a security event." Pet. 62 (citing Ex. 1012 ¶ 105).

Claim 1 also recites “wherein the base transfers power to the auxiliary port for powering the auxiliary device.” Ex. 1001, 9:37–38. Petitioner contends that Marszalek in view of Wheeler discloses that the base is configured to transfer power to a peripheral sensor attached to an auxiliary device. Pet. 62 (citing Ex. 1005, 11:13–20; Ex. 1012 ¶ 106). Petitioner further asserts that “Brenner teaches that the power can be transferred from a sensor to an electronic device to which the sensor is attached using an adapter cable (‘connecting line 13’).” Pet. 62 (citing Ex. 1007, 10). Petitioner argues that “it would have been obvious to use an adapter cable to electrically connect the peripheral sensor to the auxiliary device to enable power transfer from the base to the auxiliary device,” and that a person of ordinary skill in the art would have been motivated to do so because, as Marszalek itself recognizes, “[m]any [devices] require power connections and/or data connections to allow an operational interaction between the consumer and the [devices].” Pet. 62–63 (quoting Ex. 1005, 1:51–54) (citing Ex. 1012 ¶ 107).

Finally, claim 1 recites “wherein a security signal is transmitted through the auxiliary port that is used to detect removal of the auxiliary device from the base.” Ex. 1001, 9:39–41. According to Petitioner, Fawcett teaches that a sense loop “may be formed of an electrical conductor . . . located within an outer mechanical cable.” Ex. 1009 ¶ 23. Petitioner argues that, “[b]ecause the peripheral tether securing the auxiliary device has an electrical conductor, it would have been obvious to implement

Fawcett’s ‘sense loop’ technique to secure the auxiliary device.” Pet. 63–64 (citing Ex. 1012 ¶ 109).

We have reviewed the record, including the Preliminary Response, and find that the information presented in the Petition establishes a reasonable likelihood that Petitioner would prevail at trial in showing that the combination of Brenner, Marszalek, Wheeler, and Fawcett renders claim 1 obvious. Petitioner’s arguments are adequately supported, for example, by disclosures in these references and declaration testimony, in which Mr. Figh explains how those disclosures read on the limitations of claim 1. We address Patent Owner’s arguments below.

Patent Owner argues that the Petition fails to present evidence that a person of ordinary skill in the art would have combined the adapter cable of Brenner with the peripheral sensor of Marszalek, or that a person of ordinary skill in the art would have had a reasonable expectation of success in doing so. Prelim. Resp. 13–14. Specifically, Patent Owner again asserts that a skilled artisan would not have believed that Marszalek’s peripheral sensor is provided with power that can be used to power an auxiliary device. Prelim. Resp. 14–17. In addition, similar to its argument relating to the ground based on the combination of Grant, Marszalek, and Wheeler, Patent Owner again argues that a person of ordinary skill in the art would

not have been motivated to look to Wheeler, because it is redundant to the combination of Brenner and Marszalek.¹¹ Prelim. Resp. 25–29.

For similar reasons to those discussed above for the ground based on the combination of Grant, Marszalek, and Wheeler, we do not find these arguments persuasive.

On this record, we are persuaded that Petitioner has demonstrated a reasonable likelihood of prevailing on its assertion that claim 1 would have been obvious over the teachings of Brenner, Marszalek, Wheeler, and Fawcett.

4. Dependent Claims 2, 3, 16, and 18

We have reviewed Petitioner’s contentions with respect to dependent claims 2, 3, 16, and 18. Petitioner directs us to information supporting the view that these claims would have been obvious over the teachings of Brenner, Marszalek, Wheeler, and Fawcett. *See* Pet. 65–70. At this stage, Patent Owner does not separately address Petitioner’s explanations and supporting evidence as to how the teachings of Brenner, Marszalek, Wheeler, and Fawcett account for the limitations of these dependent claims. *See generally* Prelim. Resp. Accordingly, Petitioner has demonstrated a

¹¹ Patent Owner additionally applies the same arguments cited in this paragraph to “Ground Four,” i.e., Petitioner’s challenge of claims 19, 20, 23, and 28 as obvious over the combination of Brenner, Marszalek, Wheeler, Fawcett, the ’730 Publication, and Vogt. *See* Prelim. Resp. 13–14, 25–29. Our analysis of Patent Owner’s arguments applies equally to Petitioner’s challenge of claims 19, 20, 23, and 28 as obvious over the combination of Brenner, Marszalek, Wheeler, Fawcett, the ’730 Publication, and Vogt.

reasonable likelihood that it would prevail on its assertions that claims 2, 3, and 16–18 would have been obvious over the teachings of Brenner, Marszalek, Wheeler, and Fawcett.

*F. Obviousness of Claims 19, 20, 23, and 28
Brenner, Marszalek, Wheeler, Fawcett,
the '730 Publication, and Vogt*

Petitioner contends that claims 19, 20, 23, and 28 of the '358 Patent are unpatentable under 35 U.S.C. § 103 as obvious over the combined teachings of Brenner, Marszalek, Wheeler, Fawcett, the '730 Publication, and Vogt. Pet. 70–81. Petitioner contends that the combined teachings of these references account for the subject matter of each challenged claim, and provides reasoning as to why one of ordinary skill in the art would have been prompted to modify or combine the teachings of these references. *Id.* Petitioner also relies on the Figh Declaration to support its positions.

Patent Owner argues that Petitioner's arguments are barred by the doctrine of issue preclusion, and that the evidence in the Petition is insufficient to support that one of ordinary skill in the art would have been motivated to combine the prior art references. Prelim. Resp. 29–45. Patent Owner relies on the Blackburn Declaration (Ex. 2001) and Declaration of Eric R. Pearson filed in IPR2019-01206 (Ex. 2002) to support its positions.

We begin our analysis with a brief overview of the '730 Publication, then we address the parties' contentions.

1. Overview of the '730 Publication (Ex. 1010)

Petitioner asserts that the '730 Publication qualifies as prior art against the '358 Patent under 35 U.S.C. § 102(a)(1). Pet. 71.

The '730 Publication relates to “connectors for securing electronic devices from theft.” Ex. 1010 ¶ 2. The '730 Publication discloses a power cable, where one end of the cable includes a connector configured to electrically couple to an article of merchandise. Ex. 1010 ¶ 21. The connector is configured to communicate at least power and security signals to the article of merchandise. *Id.* The connector may include an optical sensor configured to detect the engagement of the connector and the article of merchandise. Ex. 1010 ¶ 30. The '730 Publication states that “[t]he sensor may be engaged, integrated, molded, or otherwise coupled to the connector.” *Id.*

Petitioner provides the following annotated version of Figure 1 of the '730 Publication (*see* Pet. 72):

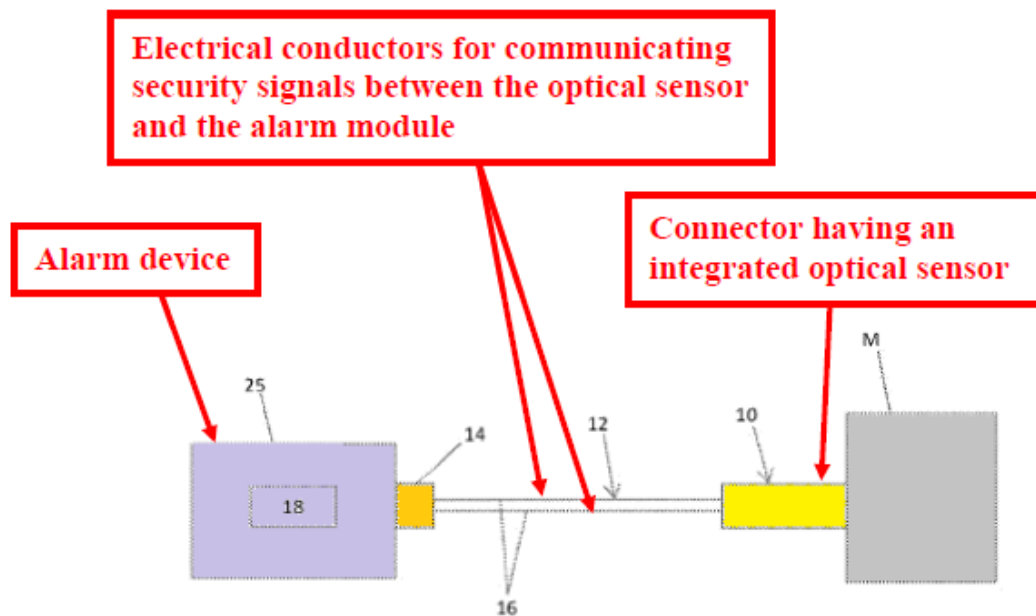


FIGURE 1

VPG-1010, Figure 1 (annotated)

The annotated version of Figure 1 of the '730 Publication, reproduced above, illustrates, among other things, alarm device 25, article of merchandise M, power cable 12, connector 10 having an integrated optical sensor, and electrical conductors 16 for communicating security signals between the alarm device and the connector. Ex. 1010 ¶¶ 19–20, 30.

2. Claims 19, 20, 23, and 28

In asserting a motivation to modify the system of Brenner with the teachings of the '730 Publication, Petitioner contends that a person of ordinary skill in the art would have recognized that Brenner's security system relies on an optical waveguide within the securing tether to transmit optical signals between the optical transceivers of the sensor unit and the

base. Pet. 72–73. Petitioner argues that the skilled artisan would have “recognized that Brenner may suffer from reliability issues because the securing tether can be ‘*a spiral cable*’ or ‘*can be wound under tensile stress*’ in a winding device. Pet. 73 (quoting Ex. 1007, 5–6, 11). Petitioner further argues that “[i]t is a well-known fact that when an optical waveguide is subjected to bending or winding, it is prone to at least two types of signal loss: ‘curvature loss’ and ‘microbend loss.’” Pet. 73 (citing Ex. 1014, 196, 536, 576 (dictionary definitions for “curvature loss,” “loss,” and “microbend,” and discussion of curvature loss and microbend loss); Ex. 1012 ¶ 63). Based on this purported unreliability, Petitioner asserts that a skilled artisan “would have been motivated to look for a solution that would enable the optical transceiver of the sensor to communicate with the base without relying on an optical waveguide in the securing tether,” and “[t]his motivation would have led to the ’730 Publication.” Pet. 74 (citing Ex. 1012 ¶ 64).

Petitioner asserts that the ’730 Publication discloses that an optical sensor can be integrated into a connector of the security cable, and that a skilled artisan “would have been motivated to relocate the first optical transceiver from the base into the connector of the securing tether, thereby enabling the first optical transceiver to communicate directly with the optical transceiver of the sensor, without requiring an optical waveguide.” Pet. 74–75 (citing Ex. 1010 ¶ 20; Ex. 1012 ¶ 64). According to Petitioner, “a need for an optical waveguide would be obviated, thereby eliminating

the issue of potential signal loss between the sensor and the base.” Pet. 75 (citing Ex. 1012 ¶ 64).

Patent Owner argues that in IPR2019-01206 and IPR2019-01209, another Board panel already rejected the identical argument, i.e., that a person of ordinary skill in the art would have been motivated to replace the optical waveguide of Brenner because it is unreliable. Prelim. Resp. 31–34. Patent Owner argues that the doctrine of issue preclusion prevents Petitioner from relitigating this same issue here. *Id.*

As an initial matter, and as Patent Owner notes, requests for rehearing have been filed in IPR2019-01206 and IPR2019-01209, so the respective decisions to institute are not final. Further, the circumstances of the case that Patent Owner relies upon for issue preclusion, *Papst Licensing GmbH & Co. KG v. Samsung Electronics America, Inc.*, 924 F.3d 1243, 1250–51 (Fed. Cir. 2019), differ from the circumstances here because in *Papst* the Board had issued a Final Written Decision, which had been deemed final at an appellate level. In any event, we need not reach this argument, because we agree with Patent Owner that Petitioner has not demonstrated a sufficient rationale for modifying Brenner in the manner asserted in the Petition. Prelim. Resp. 34.

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. 1007, 5; Prelim. Resp. 35. 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. 1007, 3. Thus, contrary to Petitioner’s argument that bending or winding Brenner’s optical waveguide would create reliability issues, we agree with Patent Owner that 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* Prelim. Resp. 35.

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. 37–41. 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. 73 (citing Ex. 1014, 196, 536, 576 (dictionary definitions for “curvature loss,” “loss,” and “microbend,” and discussion of curvature loss and microbend loss); Ex. 1012 ¶ 63). Mr. Figh, in turn, relies solely on the same definitions from the same dictionary. Ex. 1012 ¶ 63. 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.

Further, 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. 73–74 (citing Ex. 1012 ¶¶ 63–64). 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. 1012 ¶¶ 63–64; 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. 74–75. 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 the '730 Publication. 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 claims 19, 20, 23, and 28 are unpatentable as obvious over the teachings of Brenner, Marszalek, Wheeler, Fawcett, the '730 Publication, and Vogt. Nevertheless, following *SAS* and USPTO guidance, we institute review of all challenged claims under all grounds asserted in the Petition because, as we explained above, Petitioner satisfies the reasonable likelihood threshold standard for institution on other grounds as to at least one challenged claim. *See SAS Inst. Inc.*, 138 S. Ct. at 1355–56; Consolidated Trial Practice Guide at 5.

III. CONCLUSION

Petitioner demonstrates a reasonable likelihood of prevailing on its assertion that at least one challenged claim is unpatentable. Accordingly, we institute review of all challenged claims based on all grounds asserted in the Petition. *See PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (a decision whether to institute an *inter partes* review “require[s] a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”).

Trial shall commence on the entry date of this Decision. We emphasize that, at this juncture, we have not made a final determination as to the patentability of any challenged claim. Any final decision will be based on the full record developed during trial.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314, an *inter partes* review of claims 1–3, 16–20, 23, 28, and 29 of the '358 Patent is instituted on the following grounds:

(1) whether claims 1–3, 16–18, and 29 are unpatentable as obvious over the disclosures of Grant, Marszalek, and Wheeler;

(2) whether claims 19, 20, 23, and 28 are unpatentable as obvious over the disclosures of Grant, Marszalek, Wheeler, and Vogt;

(3) whether claims 1–3, 16, and 18 are unpatentable as obvious over the disclosures of Brenner, Marszalek, Wheeler, and Fawcett;

(4) whether claims 19, 20, 23, and 28 are unpatentable as obvious over the disclosures of Brenner, Marszalek, Wheeler, and Fawcett, the '730 Publication, and Vogt;

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.

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