

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TILE, INC.,
Petitioner,

v.

LINQUET TECHNOLOGIES, INC.,
Patent Owner.

IPR2021-00927
Patent 10,163,318 B2

Before STACEY G. WHITE, STEVEN M. AMUNDSON, and
STEPHEN E. BELISLE, *Administrative Patent Judges*.

BELISLE, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)
Dismissing Petitioner's Motion to Exclude
37 C.F.R. § 42.64(c)

I. INTRODUCTION

Tile, Inc. (“Petitioner”) filed a Petition (Paper 23, “Pet.”)¹ requesting an *inter partes* review of claims 1–21 (“Challenged Claims”) of U.S. Patent No. 10,163,318 B2 (Ex. 1001, “the ’318 patent”). Linquet Technologies, Inc. (“Patent Owner”) filed a Preliminary Response to the Petition (Paper 14, “Prelim. Resp.”; *see* Paper 5, 1). In addition, with prior authorization from the Board, the parties filed supplemental briefing concerning the Preliminary Response. Paper 24 (“POPR Reply”); Paper 25 (“POPR Sur-Reply”). We instituted an *inter partes* review of claims 1–21 of the ’318 patent on all grounds of unpatentability alleged in the Petition. Paper 26 (“Institution Decision” or “Dec.”).

After institution, Patent Owner filed a Response. Paper 30 (“PO Resp.”). Petitioner filed a Reply. Paper 34 (“Pet. Reply”). Patent Owner filed a Sur-Reply. Paper 35 (“PO Sur-Reply”). Petitioner also filed a Motion to Exclude Evidence, in which Petitioner moves to exclude paragraphs 29–41 of the Declaration of Dr. Daniel W. Engels (Ex. 2009), Patent Owner’s declarant. Paper 39 (“Mot. Excl.”). Patent Owner filed an Opposition to Petitioner’s Motion to Exclude Evidence (Paper 40), and Petitioner filed a Reply to Patent Owner’s Opposition to Petitioner’s Motion to Exclude Evidence (Paper 42). We held a hearing on August 24, 2022, and a transcript of the hearing appears in the record. Paper 48 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6 (2018). Under the applicable evidentiary standard, Petitioner has the burden to prove unpatentability by a preponderance of the evidence. *See* 35 U.S.C. § 316(e);

¹ Petitioner filed a Petition (Paper 2) and a corrected Petition (Paper 23). We reference the corrected Petition filed on September 22, 2021.

37 C.F.R. § 42.1(d) (2022). “Preponderance of the evidence means the greater weight of evidence, evidence which is more convincing than the evidence which is offered in opposition to it.” *United States v. C.H. Robinson Co.*, 760 F.3d 1376, 1383 (Fed. Cir. 2014) (internal quotations omitted). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons discussed below, we determine Petitioner has established by a preponderance of the evidence that claims 1–21 of the ’318 patent are unpatentable.

II. BACKGROUND

A. *Related Matters*

At the time of the Petition’s filing, the parties indicated that the ’318 patent was involved in one U.S. district court action, namely, *Linquet, Inc. v. Tile, Inc.*, Case No. 3:20-cv-05153 (N.D. Cal.) (“District Court Case”). Pet. 1; Paper 5, 1.

Subsequently, in an Order dated July 18, 2022, the district court dismissed the District Court Case *with prejudice* and terminated the case:

In this patent infringement action, [Linquet / Patent Owner] has accused the tracking tag products of [Tile / Petitioner] of infringing [the ’318 patent]. The Court dismissed the first amended complaint (FAC), on the grounds that the ’318 patent was directed to patent-ineligible subject matter under 35 U.S.C. § 101. Linquet was granted leave to file the SAC [second amended complaint], which Tile asks to dismiss again for patent-ineligible subject matter. The parties’ familiarity with the record, and the Court’s prior order in particular, is assumed. Tile’s motion to dismiss is granted, and the case is terminated.

Ex. 1047, 1, 6 (internal citations omitted).

According to the district court’s docket for this case, on August 16, 2022, Patent Owner appealed to the Federal Circuit from this Order and the district court’s Judgment rendering invalid all claims of the ’318 patent. According to the Federal Circuit’s docket for this appeal, Case No. 22-2150, on October 25, 2022, Patent Owner filed a consent motion to voluntarily dismiss the appeal with prejudice. In an Order dated November 1, 2022, the Federal Circuit stated, “[t]he court generally does not specify whether a dismissal of an appeal is with prejudice,” and ordered, “[t]he motion is granted to the extent that the appeal is dismissed.” The court also indicated that this Order issued as a mandate as of November 1, 2022.

Although not identified to the Board by Patent Owner during this proceeding, we note that *three* continuing patent applications claim priority to the ’318 patent, namely, (1) U.S. Patent App. No. 16/227,572, now U.S. Patent No. 10,769,924, issued September 8, 2020; (2) pending U.S. Patent App. No. 17/014,895, filed September 8, 2020; and (3) pending U.S. Patent App. No. 17/704,348, filed March 25, 2022 (*during this proceeding*).²

B. The ’318 Patent

The ’318 patent is titled “Comprehensive System and Method of Universal Real-Time Linking of Real Objects to a Machine, Network, Internet, or Software Service,” and issued on December 25, 2018, from U.S. Patent Application No. 16/005,193, filed June 11, 2018, and claims priority through a series of continuations to U.S. Provisional Patent Application

² See Consolidated Trial Practice Guide at 18 (Nov. 21, 2019) (“Administrative matters include every application and patent claiming, or which may claim, the benefit of the priority of the filing date of the party’s involved patent or application . . .”).

No. 61/608,429, filed March 8, 2012. Ex. 1001, codes (10), (21), (22), (45), (54), (60), (63).

The '318 patent generally relates to “a method of tracking the position and status of objects using a wireless tag associated with the object and/or an RF-enabled object.” Ex. 1001, 1:22–26. Figure 1A of the '318 patent is reproduced below.

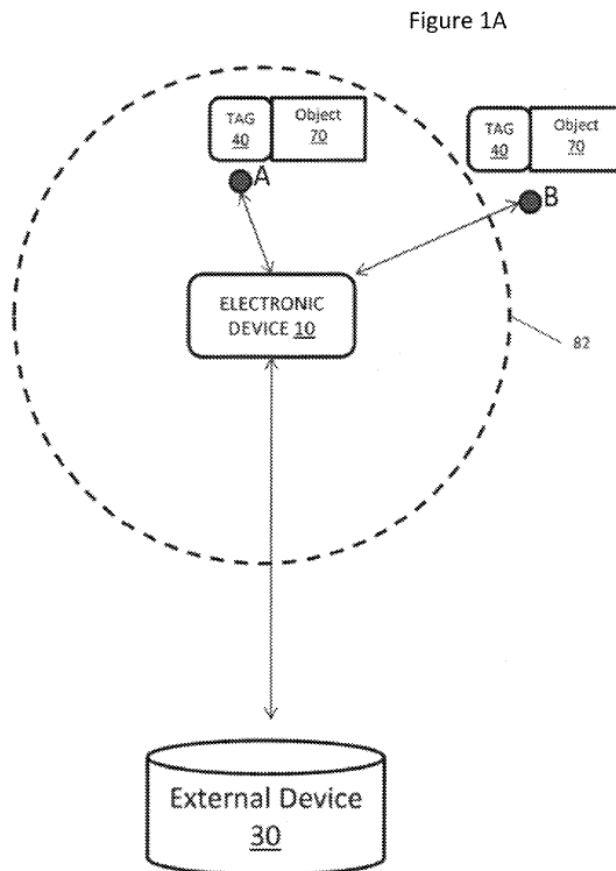


Figure 1A depicts an exemplary method of tracking an object attached to a wireless tag. *Id.* at 6:58–60, Fig. 1A.

Figure 1A shows electronic device 10, such as a cellular phone, which includes a module determining the current or last known position of electronic device 10. Ex. 1001, 8:44–53. Figure 1A also shows object 70, such as a wallet, attached to wireless tag 40, which includes a radio

transceiver in communication with a radio transceiver included in electronic device 10. *Id.* at 8:54–58. According to the '318 patent, electronic device 10 monitors the strength of the radio signal received from wireless tag 40 to determine the distance between electronic device 10 and wireless tag 40. *Id.* at 8:58–61. When object 70 and tag 40 are within first distance 82 from electronic device 10, such as at point A, electronic device 10 determines the status of wireless tag 40 to be “in range.” *Id.* at 8:61–64. When object 70 and tag 40 are beyond first distance 82 from electronic device 10, such as at point B, electronic device 10 determines the status of wireless tag 40 to be “out of range.” *Id.* at 8:64–67. When the status of wireless tag 40 changes from “in range” to “out of range,” either electronic device 10, wireless tag 40, or both will alarm. *Id.* at 8:67–9:2.

According to the '318 patent, and as depicted in Figure 1A, electronic device 10 periodically sends information relating to its current or last known location and the status of wireless tag 40 to external device 30, such as an external network or cloud data service. Ex. 1001, 9:3–7. When the status of wireless tag 40 changes from “in range” to “out of range,” electronic device 10 sends information relating to its current or last known location and the change of status to the external device 30. *Id.* at 9:7–11. In this way, according to the '318 patent, a user is given both an alarm when the change in status occurs, as well as a last known location for object 70 based on the strength of the radio signal from tag 40 received by wireless device 10. *Id.* at 9:11–14.

According to the '318 patent, once wireless tag 40 exceeds a predetermined distance, such as first distance 82, from electronic device 10, wireless tag 40 is configured to be detectable by multiple radio transceiver

systems. Ex. 1001, 27:42–46. In this way, an unassociated radio transceiver associated with a second electronic device in communication with external device 30 is able to detect a predetermined radio signal or type of signal from wireless tag 40 and upload and save the current location of the wireless tag 40 to external device 30. *Id.* at 27:46–52. This allows the owner of wireless tag 40 to monitor its location even when wireless tag 40 is not in contact with electronic device 10. *Id.* at 27:52–57.

C. Illustrative Claim

The '318 patent includes twenty-one claims, all of which are challenged. Claims 1, 10, 13, and 17 are the challenged independent claims. Claim 1 is illustrative and reproduced below with labels, such as “1[PRE],” added to limitations in the same manner as used by the parties.

1. [1[PRE]] A system for detecting placement or misplacement of an object, the system comprising:

[1[A]] a wireless tag associated with the object;

[1[B]] a first set of instructions stored in a first non-transitory storage medium, the first set of instructions, when executed by one or more processors in a first electronic device associated with the wireless tag, cause the one or more processors in the first electronic device to automatically:

[1[C]] detect one or more signals from the wireless tag;

[1[D]] determine a position of the first electronic device;

[1[E]] determine a status of the wireless tag in response to a strength or absence of the one or more signals detected by the first electronic device, the status indicating that the wireless tag and the first electronic device are within a predetermined range or that the wireless tag and the first electronic device are outside the predetermined range;

[1[F]] transmit the position of the first electronic device and the status to an external electronic device in response

to the status indicating that the wireless tag and the first electronic device are within the predetermined range;
and

[1[G]] transmit the position of the first electronic device and the status to the external electronic device in response to the status indicating that the wireless tag and the first electronic device are outside of the predetermined range;

[1[H]] a second set of instructions stored in a second non-transitory storage medium, the second set of instructions, when executed by one or more processors in a second electronic device that is unassociated with the wireless tag, cause the one or more processors in the second electronic device to automatically:

[1[I]] detect one or more signals from the wireless tag;

[1[J]] determine a position of the second electronic device;

[1[K]] determine an identifier for the wireless tag using the one or more signals from the wireless tag; and

[1[L]] transmit the position of the second electronic device and the identifier to the external electronic device.

Ex. 1001, 27:66–28:38.

D. Evidence of Record

Petitioner relies on the following patent evidence.

Name	Patent Document	Exhibit
Teller	8,810,392 B1	1004
Huang	8,704,657 B2	1005
Yan	2011/0234399 A1	1006
Wassingbo	7,248,167 B2	1007
Thorn	7,843,343 B2	1008

Pet. 11–12.

Petitioner also relies upon the Declaration of Christopher M. Schmandt (Ex. 1003).

Patent Owner relies upon the Declaration of Daniel W. Engels, Ph.D. (Ex. 2001), Supplemental Declaration of Dr. Engels (Ex. 2009), and deposition testimony of Mr. Schmandt (Ex. 2008).

E. Asserted Challenges to Patentability

We instituted *inter partes* review of claims 1–21 of the ’318 patent on the following grounds asserted by Petitioner. Dec. 2–3, 47; Pet. 12.

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 3, 4, 6–20	103 ³	Teller
1–21	103	Teller, Huang
2, 5, 9, 12, 21	103	Teller, Yan
5, 12	103	Teller, Wassingbo
7, 8, 13–16	103	Teller, Wassingbo, Thorn

For each of the above grounds, Petitioner’s challenge to the listed claims is based on the listed reference(s) “in view of . . . knowledge of a POSA,” where “POSA” means a person of ordinary skill in the art. Pet. 12.

III. PATENTABILITY

A. Applicable Law

Petitioner challenges the patentability of claims 1–21 of the ’318 patent on grounds that the claims would have been obvious under 35 U.S.C. § 103 in light of various references, namely, Teller, Huang, Yan,

³ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103. Because the ’318 patent was filed before March 16, 2013, the effective date of the relevant amendment, the pre-AIA version of § 103 applies.

Wassingbo, and Thorn. To prevail in its challenges to the patentability of the claims, Petitioner must establish unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d). “In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (citing *Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1326–27 (Fed. Cir. 2008)) (discussing the burden of proof in *inter partes* review).

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 said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when of record, objective evidence of obviousness or non-obviousness, i.e., secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Secondary considerations may include the following: “commercial success, long felt but unsolved needs,

failure of others, etc.”⁴ *Id.* The totality of the evidence submitted may show that the challenged claims would not have been obvious to one of ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984). When evaluating a combination of independent prior-art elements, we must also “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR*, 550 U.S. at 418 (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

The Supreme Court has made clear that we apply “an expansive and flexible approach” to the question of obviousness. *Id.* at 415. Whether a patent claiming a combination of prior-art elements would have been obvious is determined by whether the improvement is more than the predictable use of prior-art elements according to their established functions. *Id.* at 417. To reach this conclusion, however, requires more than a mere showing that the prior art includes separate references covering each separate limitation in a claim under consideration. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). Rather, obviousness requires the additional showing that a person of ordinary skill at the time of the invention would have selected and combined those prior-art elements in the normal course of research and development to yield the claimed invention. *Id.* “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).

⁴ Patent Owner did not present any evidence or arguments directed to secondary considerations during this proceeding.

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

B. Level of Ordinary Skill in the Art

Petitioner contends that a person of ordinary skill in the art, at the time of the invention of the '318 patent:

would have [had] a B.S. in Electrical or Computer Engineering or equivalent field, with 3-5 years of academic or industry experience in the wireless/mobile communications and location industry or comparable industry. Additional education could compensate for less practical experience and vice versa.

Pet. 18 (citing Ex. 1003 ¶ 48).

Patent Owner does not present an alternative definition of the skilled artisan, and does not dispute Petitioner's definition thereof. *See generally* PO Resp.

In determining the level of ordinary skill in the art, various factors may be considered, including the "type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). The level of ordinary skill in the art also is reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

Considering the subject matter of the '318 patent, the background technical field, the prior art, and Petitioner's unopposed proposed definition of the skilled artisan, (a) we apply the level of skill set forth above, which also is consistent with the testimony of Mr. Schmandt (Ex. 1003 ¶ 48); and

(b) we determine this would have provided a sufficient level of skill in light of the technology at issue in the '318 patent and the asserted prior art.

Regardless, neither party argues that the outcome of this case would differ based on our adoption of any particular definition of the level of ordinary skill in the art.

C. Claim Construction

We construe claims “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), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b); *see also Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc).

In this context, claim terms “are generally given their ordinary and customary meaning” as understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips*, 415 F.3d at 1312–13; *see CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002) (There is “a ‘heavy presumption’ that a claim term carries its ordinary and customary meaning.”). “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.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). Extrinsic evidence is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Phillips*, 415 F.3d at 1317.

Only those claim terms that are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (stating that “we 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))).

In the Petition, Petitioner proffers constructions for four terms, namely, (1) “predetermined range”; (2) “determine”; (3) “identifier,” each as recited, for example, in independent claim 1; and (4) “render the wireless tag detectable,” as recited, for example, in dependent claim 2. Pet. 18–22. However, Petitioner also submits “[f]or purposes of this proceeding, whether the terms of the ’318 Patent are afforded Patent Owner’s apparent constructions or are construed as proposed by Petitioner, the grounds render the claims obvious.” Pet. 18–19; *see* Pet. Reply 1–2. Patent Owner likewise submits “claim construction is unnecessary to resolve this IPR,” and that “none of Petitioner’s grounds rely on its claim construction[s].” PO Resp. 3–4; *see* PO Sur-Reply 2–3.

Although in our Institution Decision we invited the parties to address the proper construction of “predetermined range,” “determine,” “identifier,” and “render the wireless tag detectable,” and to provide evidentiary support therefor (Dec. 20–21), based upon our consideration of the complete record before us, we conclude that it is unnecessary to interpret expressly any term in the ’318 patent claims for purposes of rendering our final decision in this case. *See Nidec*, 868 F.3d at 1017; *see also* Pet. Reply 2; Ex. 2008, 69:4–70:2.

D. Obviousness of Claims 1, 3, 4, and 6–20 over Teller and “Knowledge of a POSA”

Petitioner contends claims 1, 3, 4, and 6–20 are unpatentable under 35 U.S.C. § 103 as obvious over Teller (Ex. 1004) in view of the “knowledge of a POSA.” Pet. 24–77; Pet. Reply 2–18. Patent Owner opposes Petitioner’s contentions. PO Resp. 4–33; PO Sur-Reply 3–20. For the reasons expressed below, and based on the complete record before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1, 3, 4, and 6–20 are unpatentable as obvious over Teller (or Teller in view of the knowledge of the skilled artisan, as characterized in the Petition).⁵ We turn first to an overview of Teller.

1. Overview of Teller (Ex. 1004)

Teller generally is directed to “methods and systems that involve monitoring presence of items based on context.” Ex. 1004, Abstract. Figure 1 of Teller is reproduced below.

⁵ Petitioner characterizes this basis for unpatentability as Teller “in view of knowledge of [the ordinarily skilled artisan]” (Pet. 12, 24), and likewise adds “in view of” such knowledge to each of its other alleged bases for unpatentability (Pet. 12, 77, 89, 96, 100). We discuss the parties’ arguments concerning the import of this “knowledge” in our analysis of limitation 1[G] below in Section III.D.2.a.2.

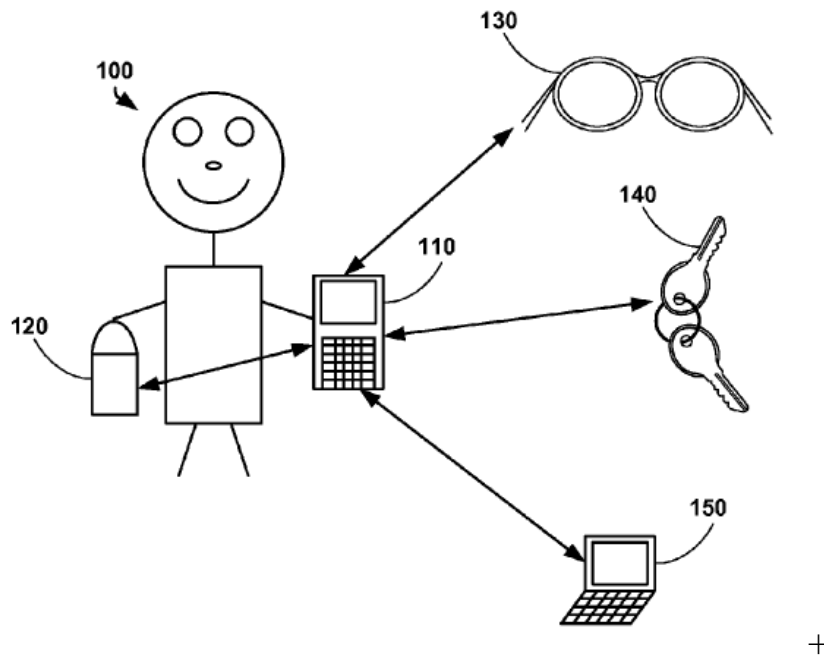


FIGURE 1

Figure 1 depicts a representative scenario in which a monitoring device is paired with multiple items and issues an alert if an item cannot be sensed.

Id. at 4:43–45, Fig. 1. Teller discloses:

FIG. 1 depicts a representative scenario in which a user's 100 mobile phone 110 acts as a monitoring device for multiple items. The mobile phone 110 is equipped with an RFID reader capable of sensing the presence of RFID tags that are attached to and associated with various items, including a purse 120, reading glasses 130, keys 140, and a laptop computer 150. The mobile phone 110 monitors the purse 120, reading glasses 130, keys 140, and laptop computer 150 to ensure that the user 100 has not misplaced or lost the items.

Id. at 7:18–26.

According to Teller, the monitoring device, such as mobile phone 110, is “used to detect the presence of an item, and to issue an alert if the item is missing,” and “may also issue an alert if an item exceeds a desired distance away from the device.” Ex. 1004, 7:61–65. Monitoring

device 200, for example, “includes one or more communication components 210, such as RFID reader 211, NFC communication component 212, and/or another wireless communication component 213, such as a Bluetooth or RuBee component.” *Id.* at 8:25–29. Monitoring device 200 monitors active sensor 220 or passive sensor 230 that is associated with an item, using any of the aforementioned wireless technologies and protocols. *Id.* at 8:33–36. Monitoring device 200 may communicate with servers or other computing devices via a mobile telecommunications network or other wireless telecommunications network. *Id.* at 8:45–49.

Monitoring device 200 also includes monitoring module 265, pairing management module 270, alerts module 275, and database 280. Ex. 1004, 9:10–12. Teller discloses:

The alerts module 275 generates alerts associated with missing items. The alerts module 275 determines when the monitoring device 260 should issue an alert, and the type of alert to issue. In determining whether to issue an alert, the alerts module 275 may consider numerous factors, including the nature and type of item that is being monitored, *the location of the monitoring device*, the date or time, the day of the week, the other items that are being monitored, the other items that had been monitored in the past, the duration of time that the item was sensed, the distance the item is from the monitoring device, the velocity at which the monitoring device is moving relative to the item (either away or toward the item), the preferences of the user, the preferences of other users, trends, or on any other factor.

Id. at 9:31–44 (emphasis added).

Teller also discloses that monitoring device 602, for example, “includes a weather module 630 for acquiring and deriving context signals from weather report feeds, a system clock 632 providing a reference for

time-based context signals, *a location system 634 (e.g., GPS)*, and an FM radio receiver 635.” Ex. 1004, 17:18–29 (emphasis added). According to Teller, “a monitoring device according to an example embodiment may not include all of the illustrated modules, and may additionally or alternatively include other types of modules as well.” *Id.* at 17:25–29.

Teller discloses “a monitoring-support system” that “may be configured to support a peer-to-peer lost and found system.” Ex. 1004, 42:30–32. According to Teller, “monitoring devices may report a ‘lost’ item to the monitoring-support system upon determining that a proximity requirement is not met for the item,” and “may also determine whether a detected item is associated with the user of the device, and if not, report the item as ‘found’ to [the] monitoring-support system.” *Id.* at 42:32–38.

Petitioner contends Teller qualifies as prior art under 35 U.S.C. § 102(e) based on its filing date. Pet. 11. On this record, we have no evidence of an invention date other than the earliest possible effective filing date of the challenged claims. Thus, we determine that Teller qualifies as prior art under 35 U.S.C. § 102(e) because Teller’s filing date of February 2, 2011, is before the earliest possible effective filing date of the challenged claims, which is March 8, 2012. Ex. 1001, code (60); Ex. 1004, code (22).

We further discuss below the disclosure of Teller in connection with the parties’ arguments.

2. *Analysis*

a) Independent Claim 1

Petitioner contends independent claim 1 is obvious over Teller in view of the “knowledge of a POSA.” Pet. 24–46; Pet. Reply 2–18. The parties dispute whether Teller in view of the knowledge of the skilled artisan

teaches or suggests (i) limitation 1[D], namely, “determine a position of the first electronic device” (PO Resp. 4–15; PO Sur-Reply 3–15; Pet. 27–29; Pet. Reply 2–7); and (ii) limitation 1[G], namely, “transmit the position of the first electronic device and the status to the external electronic device in response to the status indicating that the wireless tag and the first electronic device are outside of the predetermined range” (PO Resp. 4, 16–33; PO Sur-Reply 15–20; Pet. 38–40; Pet. Reply 8–18). Patent Owner does not contend that the remaining limitations in claim 1 are absent in Teller (*see generally* PO Resp.), and therefore, has waived such arguments. *See* 37 C.F.R. § 42.23(a) (“Any material fact not specifically denied may be considered admitted.”); *In re Nuvasive, Inc.*, 842 F.3d 1376, 1379–82 (Fed. Cir. 2016) (holding that patent owner waived arguments on an issue that were not raised in its response after institution); *see also Papst Licensing GmbH & Co. KG v. Samsung Elecs. Am., Inc.*, 924 F.3d 1243, 1250 (Fed. Cir. 2019) (holding patent owner forfeited argument for patentability not presented to the Board); *Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1048 (Fed. Cir. 2019) (explaining that arguments not presented to the Board are waived). We address below limitations 1[D] and 1[G] in turn and then we turn to the sufficiency of Petitioner’s uncontested allegations.

(1) *Limitation 1[D]—“determine a position of the first electronic device”*

Teller discloses that “monitoring devices,” such as mobile phone 110, are “used to detect the presence of an item, and to issue an alert if the item is missing,” and “may also issue an alert if an item exceeds a desired distance away from the device.” Ex. 1004, 7:18–26, 7:61–65. Teller discloses that monitoring device 602, for example, “includes a weather module 630 for

acquiring and deriving context signals from weather report feeds, a system clock 632 providing a reference for time-based context signals, *a location system 634 (e.g., GPS)*, and an FM radio receiver 635.” *Id.* at 17:18–29 (emphasis added); *see* Pet. 27–28 (citing same and Fig. 6 (showing location system 634)). Teller discloses that “monitoring devices” also may include “sensors and program logic to determine context,” where such context may be a user-context, and “the user-context may be as simple as the value of a certain context signal (e.g., time of day or *location*).” Ex. 1004, 16:22–65; *see* Pet. 28 (citing same and Fig. 14 (showing context signal 1420 for location)). Teller discloses that “monitoring devices,” such as monitoring device 602, “may implement a process to periodically or continually observe available context signals and/or items from which presence signals are available, and to store data records recording these observations.” Ex. 1004, 18:24–34; *see* Pet. 28 (citing same and Ex. 1004, 33:52–56 (“A monitoring device may automatically generate historical user-context data by periodically or continually searching for all available context signals and any items from which a presence signal can be detected.”))). Petitioner argues, and we agree, such disclosures in Teller teach or at least fairly suggest limitation 1[D], i.e., a first electronic device, such as Teller’s monitoring device, determining a position (location) of the first electronic device. Pet. 27–29; Pet. Reply 2–7; *see In re Burckel*, 592 F.2d 1175, 1179 (CCPA 1979) (“[A] reference must be considered not only for what it expressly teaches, but also for what it fairly suggests.”).

Patent Owner argues in various forms that “the Petition is deficient, as it relies on a *different* Teller embodiment for Limitation 1[D] than the other claim 1 limitations without articulating the required motivation to combine.”

PO Resp. 5 (emphasis added); *see id.* at 4–15; PO Sur-Reply 3–15.

In particular, Patent Owner argues Petitioner “principally relies” on Teller’s “Peer-to-Peer Lost and Found Network” embodiment for teaching limitations in claim 1 (PO Resp. 6–7), but then without explanation, relies on a “different” or “separate” Teller embodiment for limitation 1[D] (PO Resp. 5; *see id.* at 7–14). In making this argument, Patent Owner places great emphasis on various disclosures in Teller being gratuitously characterized as “example embodiment[s].” PO Resp. 5–15 (emphasis omitted). Having set up the alleged premise that Petitioner relies on “different,” “separate,” or “multiple” (disparate) embodiments for teaching various limitations in claim 1, Patent Owner argues Petitioner fails to articulate any reason to combine such embodiments and why the skilled artisan would have had a reasonable expectation of success in doing so. PO Resp. 5, 10–15. Based on the complete record before us, we disagree with Patent Owner’s premise and find Patent Owner’s arguments unavailing, as discussed below.

First, Teller describes its “Peer-to-Peer Lost and Found Network” in connection with, *inter alia*, Figure 16, and explains that “*monitoring devices* may report a ‘lost’ item to the monitoring-support system upon determining that a proximity requirement is not met for the item.” Ex. 1004, 42:30–38 (emphasis added); *see* Ex. 1003 ¶ 120. Teller previously explains that “[w]hile *monitoring devices* have primarily been described herein as stand-alone devices, *an example monitoring device may also be supported by a central monitoring-support system*, which supports a network of monitoring devices.” Ex. 1004, 39:60–63 (emphases added); *see* Ex. 1003 ¶ 117; Pet. Reply 4–5; *but see* PO Sur-Reply 7 (Patent Owner unpersuasively

attempting to dismiss Teller’s explicit disclosure here of monitoring devices and a central monitoring-support system using those devices). Before this, Teller discloses that monitoring device 602, for example, “includes . . . *a location system 634 (e.g., GPS)*” (Ex. 1004, 17:18–29 (emphasis added)), and explains “[i]t should be understood that *a monitoring device* according to an example embodiment may not include all of the illustrated modules, and may additionally or alternatively include other types of modules as well” (*id.* at 17:25–29 (emphasis added)). Teller also explains “[i]t will be readily understood that certain aspects of the disclosed systems and methods can be arranged and combined in a wide variety of different configurations, all of which are contemplated herein.” *Id.* at 5:47–56; *see* Pet. 71 (citing same).

Contrary to Patent Owner’s arguments noted above, and based on the foregoing disclosures in Teller, we find Teller plainly contemplates that the “monitoring devices” of Teller’s “Peer-to-Peer Lost and Found Network” may include the exemplary “monitoring devices” described in Teller or features thereof, including the “monitoring device” shown in Figure 6. *See* Tr. 50:24–51:3 (“What we’re relying on in Teller is his disclosure of this lost-and-found feature, and that lost-and-found feature already expressly uses the location component of these monitoring devices. . . . Teller has already combined the proximity requirement with his lost-and-found feature.” (citing, *inter alia*, Ex. 1004, 42:30–38, 43:15–21; Ex. 1003 ¶ 121)); *see id.* at 49:25–51:24. Thus, by citing to the “monitoring device” with location system 634 in Figure 6, we find Petitioner does not cite to a disparate embodiment relative to the “Peer-to-Peer Lost and Found Network,” but rather to one of various “monitoring device” embodiments plainly contemplated for application as *one of the components* of that

Network. As such, Petitioner need not articulate a reason to combine these particular components and effectively re-do the work already done by Teller (over fifty columns of description).⁶ *See Gen. Elec. Co. v. Raytheon Techs. Corp.*, 983 F.3d 1334, 1352 (Fed. Cir. 2020) (determining that requiring a motivation to combine claim elements present together in a reference “unduly dissects prior art references into collections of individual elements, requiring a party showing obviousness to re-do the work already done in the prior art reference”); *see also* Pet. 71–72.⁷

Second, as noted above, although Teller gratuitously characterizes aspects of its disclosure as “example embodiment[s],” we decline Patent Owner’s invitation to blindly consider all such “embodiments” as separate, distinct (disparate) embodiments and ignore Teller’s disclosure *as a whole*. *See* Ex. 1004 (Teller using the term “embodiment(s)” about 160 times and

⁶ Petitioner argues, “[r]egardless, numerous rationales supporting the motivations to combine Teller’s Lost and Found Network and monitoring device functions are set forth in the Petition, which [Patent Owner] disregards.” Pet. Reply 5; *see id.* at 5–7 (citing, *inter alia*, Pet. 72–76). Patent Owner responds, “the Petition does not provide any motivation to combine in connection with claim limitation 1[D].” PO Sur-Reply 7 (citing Pet. 27–29); *see id.* at 7–9. Because we find Petitioner need not articulate a reason to combine these particular components and effectively re-do the work already done by Teller, we do not further address herein the parties’ motivation-to-combine arguments concerning limitation 1[D].

⁷ Patent Owner argues *General Electric* is “distinguishable,” but does so based only on its premise that Petitioner combines disparate embodiments in Teller—a premise that we reject. *See* PO Resp. 12–13. Similarly, Patent Owner argues *In re Stepan Co.*, 868 F.3d 1342 (Fed. Cir. 2017) is “instructive,” but again does so based only on the rejected premise that Petitioner combines disparate embodiments in Teller. *See* PO Resp. 5, 12–15; PO Sur-Reply 6–7; *but see* Pet. Reply 3.

“example embodiment(s)” about 48 times). Patent Owner argues, “[c]ritically, Petitioner’s expert acknowledged that Teller includes multiple embodiments, one of which is the ‘Peer-to-Peer Lost and Found Network.’” PO Resp. 6 (citing Ex. 2008, 85:11–15 (“I would characterize the section of Teller that keeps track of food in your refrigerator to be a different embodiment from a peer-to-peer lost and found network.”)); PO Sur-Reply 5. But this mischaracterizes the lengthy testimony of Petitioner’s expert, Mr. Schmandt, on Teller’s use of the term “embodiment(s)” in connection with the subject Network. *See, e.g.*, Ex. 2008, 84:14–91:22.

Indeed, Mr. Schmandt testifies, “Teller uses the term ‘embodiments’ very liberally, much more liberally than I’m used to in patent language” (Ex. 2008, 85:8–10), and “it is certainly the case that Teller uses the term very, very -- very loosely” (*id.* at 86:16–17). *See* PO Resp. 8–9. After being asked repeatedly in deposition whether he disagreed with Teller’s use of the term “embodiment” and asked “how do you read Teller,” Mr. Schmandt testifies:

Teller presents several base technologies. One of those base technologies is wireless tags of various forms, in the same sense that we’ve been talking about those all day, that forms a hardware basis, if you will.

And Teller discloses on top of that a method of learning context information about those tags or the relationship of those tags to the person who owns them, if you will, and notification of -- the implication of that context on notification systems or system performance.

Teller then, on top of that technical hardware and software foundation, describes several application areas of that technology, one of which was the stock in your refrigerator application, one of which may or may not be the same, I’m not

certain, inventory management, and another one is lost and found, a peer-to-peer lost and found system.

So the way Teller uses the term “embodiment,” Teller seems to use the term “embodiment” whenever he’s trying to say or whenever they’re trying to say something could be done differently. Given that we have a system that senses context, it could be sensing location, it could be sensing temperature. He might call those we’d have to look for a specific example. But Teller, they tend to call all of those “embodiments” where I might just call them variations or alternate ways of doing things.

And the way Teller uses this term, it’s sort of a mix and match, sort of anyplace where there’s three ways of doing something, they might be described as altered embodiments. But those ways of doing things don’t necessarily imply any inconsistency or inoperability between those ways of doing them, and any of those could be combined in almost any way in terms of building the higher level structures that Teller discloses. There’s nothing exclusionary -- in general, there’s nothing exclusionary about the way Teller is using the term “embodiment.”

Ex. 2008, 89:2–90:25. Finally, when asked, “are you still combining two different embodiments within Teller . . . to come to your obviousness combination,” Mr. Schmandt answers, “I’ll just say no.” *Id.* at 91:9–15.

Patent Owner’s expert, Dr. Engels, opines in response to the Institution Decision and Petition that the skilled artisan “would not view the embodiment as shown in Figure 6 as being part of the Lost-and-Found Embodiment” (Ex. 2009 ¶ 14), and, among other testimony, parrots Patent Owner’s arguments that Teller refers to such aspects of its disclosure as “example embodiment[s]” (*id.* at ¶ 15). *See* PO Resp. 8–11 (citing, *inter alia*, Ex. 2001 ¶ 60; Ex. 2009 ¶¶ 14–20); PO Sur-Reply 4–5 (“Patent Owner submitted expert testimony that [the skilled artisan] would have understood from reading Teller that these three disclosures [concerning Figures 6, 14,

and 16–18] were all directed to separate, independent embodiments.” (citing, *inter alia*, PO Resp. 7–8, 10, n.2; Ex. 2001 ¶¶ 59–60; Ex. 2009 ¶¶ 14–20)); PO Sur-Reply 10–12.

Based on our review and weighing of the relevant testimony of Petitioner’s expert, Mr. Schmandt, and Patent Owner’s expert, Dr. Engels, regarding whether Petitioner relies on disparate embodiments in Teller to satisfy the limitations of claim 1, including the testimony discussed above, we find Mr. Schmandt’s testimony better aligns with Teller’s disclosure as a whole (discussed above), and thus is more credible. *See Skky, Inc. v. MindGeek, s.a.r.l.*, 859 F.3d 1014, 1022 (Fed. Cir. 2017) (the Board is “not required to credit [a party’s] expert evidence simply because [the party] offered it”). We also find Mr. Schmandt’s testimony (*see, e.g.*, Ex. 2008, 89:2–90:25) affirms that the “monitoring devices” of Teller’s “Peer-to-Peer Lost and Found Network” may include the exemplary “monitoring devices” described in Teller or features thereof, including the “monitoring device” shown in Figure 6.

Finally, Patent Owner effectively concedes that Teller’s “Peer-to-Peer Lost and Found Network” contemplates use of the exemplary “monitoring devices” described in Teller or features thereof, including the “monitoring device” shown in Figure 6. For example, Patent Owner argues, “[t]o the extent the Lost-and-Found Embodiment even mentions the use of ‘context,’ *it does so* only in permissive or alternative terms, and never as it being desired for the Lost-and-Found Embodiment.” PO Resp. 11 (emphasis added). Patent Owner cites Teller for disclosing that “addition[al] information, including context information, ‘may be’ provided in the message” (PO Resp. 11), but ignores the remainder of this disclosure, which

states in full, “additional information may be provided in a message *indicating that a lost item has been found*. For example, *the message may include the device location . . .*” (Ex. 1004, 43:14–20 (emphases added)). Notably, Teller explicitly discloses that it is *its* “monitoring device” such as shown in Figure 6 “that includes sensors and program logic to determine context,” including user/device “location.” Ex. 1004, 16:22–29.

Similarly, Patent Owner acknowledges that Teller discloses that its systems and methods, including its monitoring devices, can be arranged and combined in a variety of contemplated configurations, but argues this permissive language works against Petitioner. PO Resp. 11–12. Patent Owner argues that even if the skilled artisan “could” have brought together various components or “embodiments” disclosed in Teller, that does not necessarily mean the skilled artisan would have been motivated to do so. *Id.* at 12. But in this case, the skilled artisan is not the one bringing together such components or “embodiments” in a vacuum, because Teller itself already does that work *for the skilled artisan*. See, e.g., Ex. 2008, 89:2–91:15; Ex. 1004, 42:30–38, 39:60–63, 17:18–29, 5:47–56.

Accordingly, based on the foregoing evidence, Petitioner contends, and we find, Teller teaches or suggests limitation 1[D], namely, “determine a position of the first electronic device,” as recited in independent claim 1, and the Petition is not deficient for allegedly relying on disparate embodiments to show limitation 1[D].

- (2) *Limitation 1[G]*—“transmit the position of the first electronic device and the status to the external electronic device in response to the status indicating that the wireless tag and the first electronic device are outside of the predetermined range”

Teller discloses “a monitoring-support system . . . configured to support a peer-to-peer lost and found system,” as shown, for example, in Figure 16, reproduced below. Ex. 1004, 42:30–38, Fig. 16.

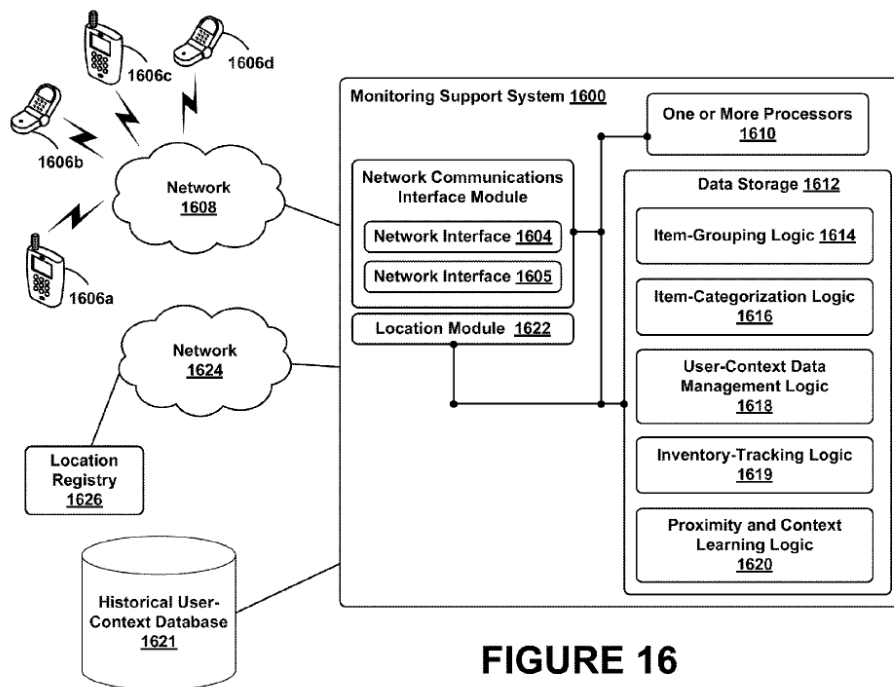


FIGURE 16

Figure 16 depicts a block diagram illustrating a monitoring-support system.

Id. at 5:35–36, Fig. 16.

Petitioner argues Teller teaches “a monitoring device transmits a lost-item message indicating a paired item’s ‘lost’ status to the monitoring-support system indicating ‘that a proximity requirement is not met for the item,’ and the proximity requirement may be ‘that a given item should be within a predetermined distance from the monitoring device.’” Pet. 38–39

(citing, *inter alia*, Ex. 1004, 42:30–38, Fig. 17); *see* Ex. 1004, 21:46–51.

Petitioner argues the skilled artisan “would find it obvious to transmit lost-item messages with the ‘lost’ status indicating that the lost item is outside of a predetermined range from the monitoring device—under both Petitioner’s and Patent Owner’s construction of ‘predetermined distance.’” Pet. 39

(citing, *inter alia*, Ex. 1003 ¶¶ 112–126, 163–169); *see* Pet. 72–73.

Petitioner argues the skilled artisan “would be motivated to transmit the ‘lost’ status message to the monitoring-support system (‘external electronic device’) in a substantially similar format as in Fig.13B, including item identifiers and the monitoring device’s location.” Pet. 39–40 (citing, *inter alia*, Ex. 1003 ¶¶ 163–169); *see* Ex. 1003 ¶ 166 (testifying it is an implementation choice to include the location of the monitoring device); Pet. 72–75; Ex. 1003 ¶¶ 156–162. Petitioner argues, and we agree, such disclosures in Teller teach or at least fairly suggest limitation 1[G], i.e., “transmit the position of the first electronic device and the status to the external electronic device in response to the status indicating that the wireless tag and the first electronic device are outside of the predetermined range.” Pet. 38–40; Pet. Reply 8–18; *see Burckel*, 592 F.2d at 1179 (“[A] reference must be considered not only for what it expressly teaches, but also for what it fairly suggests.”).

Patent Owner argues in various forms that Petitioner relies on the skilled artisan’s knowledge or “common sense” to supply a *missing limitation* without providing sufficient support for doing so. PO Resp. 16–32; *see* PO Sur-Reply 15–20. In particular, Patent Owner argues “Teller is *missing* Limitation 1[G] at least because the Lost-and-Found Embodiment monitoring device does not transmit the ‘position of the first

electronic device’ to the external electronic device when ‘outside the predetermined range,’ as required by limitation 1[G].” PO Resp. 21 (emphasis added). Having set up the alleged premise that Petitioner relies on the skilled artisan’s “common sense” or “knowledge” to supply this limitation allegedly missing in Teller, Patent Owner argues the Petition relies on such knowledge without satisfying the standard in *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1361 (Fed. Cir. 2016). PO Resp. 4, 16–32; see PO Sur-Reply 15–20. Based on the complete record before us, we disagree with Patent Owner’s premise and find Patent Owner’s arguments unavailing, as discussed below.⁸

First, the test for obviousness is not whether the claimed invention is *expressly* suggested in any one or all of the references, but whether *the claimed subject matter* would have been obvious to those of ordinary skill in the art *in light of the combined teachings* of those references. See *In re Keller*, 642 F.2d 413, 425 (CCPA 1981); *Burckel*, 592 F.2d at 1179. One of ordinary skill can use his or her ordinary skill, creativity, and common sense to make the necessary adjustments and further modifications to result in a properly functioning device. See *KSR*, 550 U.S. at 418 (“[A] court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.”). Contrary to Patent Owner’s repeated protestations about a “missing” limitation (PO Resp. 16–23), we understand Petitioner to argue that the skilled artisan would have understood Teller itself to teach or

⁸ Because we disagree with Patent Owner’s argument that Petitioner relies on the skilled artisan’s “common sense” or “knowledge” to supply a limitation allegedly “missing” in Teller, we need not, and do not, further address *Arendi* herein.

at least fairly suggest limitation 1[G], and would have been motivated to combine these 1[G] features with Teller's teachings of the remaining limitations in claim 1 (such as Teller's teachings concerning "monitoring devices" and its "Peer-to-Peer Lost and Found Network")—and not to use "common sense" of a skilled artisan to supply a "missing" limitation. *See* POPR Reply 4 ("[T]he Petition relies on a modification taught by the same reference—to modify *Teller's* lost and found system to incorporate transmission of the data entry format that *Teller* discloses."); Pet. Reply 8 ("Contrary to PO's cherry-picked analysis, the Petition points to specific disclosures in Teller for every limitation and relies on expert testimony simply to explain the motivation for [the skilled artisan] to implement the related disclosures of Teller together.").

In addition to its arguments identified above, Petitioner contends:

The Petition explains where each limitation of 1[G] is found in *Teller*, as well as the reasons to modify and combine. Pet., 39-40 ("a POSA would be motivated to transmit the 'lost' status message to the monitoring-support system ('external electronic device') ***in a substantially similar format as in Fig.13B, including item identifiers and the monitoring device's location.*** §VIII.A.19; §VIII.A.1.(g); Ex[1003], ¶¶163-69." (emphasis added)); Pet., 71-76. The limitation of transmitting the position of the monitoring device is disclosed by the combination of *Teller's* lost-and-found system, which relies on a monitoring-support system for coordinating information from many devices (see Pet., 39-40 (citing Ex[1004] at 42:29-57, Figs. 16-18)) and *Teller's* disclosure of the monitoring-support system receiving and storing data entries that include tracked item information and monitoring device location information.

POPR Reply 3 (emphasis altered; footnote omitted). Petitioner argues the skilled artisan would have been motivated to make such a combination or modification of Teller's own teachings:

to improve the overall efficiency and resource usage of the monitoring-support system by using a consistent format for communicating similar messages and storing similar data in the historical user-context database. Adding that data to the historical user-context database would benefit the monitoring-support system by creating a more complete “centralized source of context and item-presence data . . . [for] items that co-existed at a given monitoring device at a given time,” and would improve its ability to “evaluate data from historical user-context database [to] intelligently generate . . . suggested proximity requirements . . . [and] suggested associations between certain proximity requirements and certain context-signals.”

Pet. 75 (citations omitted); *see* Ex. 1003 ¶¶ 122–123; Pet. Reply 13

(“[T]he monitoring-support system would benefit by creating a more complete historical picture of device locations and which would improve the intelligent proximity frameworks, among other reasons.” (citing Pet. 75; Ex. 1003 ¶ 123)).

Put simply, (a) Teller teaches a “lost and found” peer-to-peer system using “monitoring devices” (Ex. 1004, 42:29–38, Fig. 16); (b) Teller teaches the “monitoring devices” transmit or report a “lost” item to the system via a “message” (*id.* at 42:29–57, Fig. 17); (c) Teller teaches the “monitoring devices” know their location and can transmit context information including that location (*id.* at 16:22–17:29); (d) Teller teaches “found” messages may include additional information such as “monitoring device” location (*id.* at 43:14–20); and (e) a major purpose of this system is to locate the “lost” item—we find it unsurprising that these teachings taken together (and others discussed above), informed by the Teller system’s very purpose, would at least fairly suggest to the skilled artisan to have the “monitoring device” transmit not only a “lost” message, but also the *location* of the “monitoring device” to indicate where the item was lost. *See Syntex (U.S.A.) LLC v.*

Apotex, Inc., 407 F.3d 1371, 1380 (Fed. Cir. 2005) (“What a reference teaches or suggests must be examined *in the context of the knowledge*, skill, and reasoning ability of a skilled artisan. What a reference teaches a person of ordinary skill is not . . . limited to what a reference specifically ‘talks about’ or what is specifically ‘mentioned’ or ‘written’ in the reference.” (emphasis added)). Based on the complete record before us, we find Petitioner’s above arguments persuasive.

Second, we find unavailing Patent Owner’s argument that “Petitioner’s assertion that [the skilled artisan] would be motivated to modify Teller to ‘transmit lost-item’ messages to include the information shown in Figure 13B . . . to ‘improve the overall efficiency and resource usage of the monitoring-support system’ is completely conclusory and unsupported.” PO Resp. 27; *see id.* at 25–32. Patent Owner argues that “[n]either the Petition nor the cited paragraphs of the Schmandt Declaration provide any data to back-up Petitioner’s assertion that [the skilled artisan] would be motivated to insert additional information into Teller’s lost-item messages in order to improve efficiency and resource usage of the monitoring-support system.” PO Resp. 27. But although Patent Owner argues at length about how adding even the nugget of “location” information to Teller’s transmitted “*lost*” message allegedly would have had a deleterious “cascading effect” on Teller’s system (PO Resp. 25–32), Patent Owner ignores the elephant in the room, namely that Teller explicitly contemplates that its transmitted “*found*” message *may include* additional information, such as “*the [monitoring] device location*, context information or other information relating to the device that detected the lost item, contact information for that device’s associated user . . . and/or other types of

information” (Ex. 1004, 43:14–20). *See* Pet. Reply 14. Given this, we find the testimony of Patent Owner’s expert (Ex. 2009 ¶¶ 29–41) cited as alleged support for this argument to be entitled to little, if any, weight. *See Skky*, 859 F.3d at 1014 (the Board is “not required to credit [a party’s] expert evidence simply because [the party] offered it”).

Regardless, Petitioner provides additional explanation and evidence for modifying Teller, including expert testimony, which goes beyond the truncated statement regarding efficiency and resource usage repeated here by Patent Owner. *See* Pet. 75 (reproduced, in part, *supra*); Ex. 1003 ¶¶ 122–123; *see also* Pet. 71–75; Pet. Reply 14 (“[C]onveying location information with the lost-item messages would be an efficient approach because the system is already configured to communicate and store messages with that content and because it is the only disclosed message.” (citing Pet. 75; Ex. 1003 ¶ 123)). We are persuaded that Petitioner’s cited evidence provides sufficient rational reasons to combine or modify Teller’s teaching concerning its “Peer-to-Peer Lost and Found Network” reporting a “lost” item with Teller’s teaching concerning providing a location of a monitoring device to arrive at the subject limitation.

Third, we find unavailing Patent Owner’s argument that Petitioner’s expert allegedly “confirmed” *during cross-examination* that Petitioner uses “common sense” to supply a “missing” limitation, namely, transmitting the “position of the first electronic device” to the external electronic device when “outside the predetermined range” in limitation 1[G]. PO Resp. 16–21 (citing, *inter alia*, Ex. 2008, 77:16–78:13); PO Sur-Reply 15–17. As discussed above, we find on the complete record before us that the skilled artisan would have understood Teller to at least fairly suggest this

limitation, and thus, the limitation is not “missing” in Teller. Moreover, Petitioner with its Petition, considered as a whole, determines the challenges to patentability of the Challenged Claims, *not Petitioner’s expert*, Mr. Schmandt. *See* 37 C.F.R. § 42.104; Pet. Reply 11 (“[Patent Owner] cites no authority that the Petition and declaration can be overridden by later deposition testimony—let alone misrepresented, incomplete testimony.”).

Even if Mr. Schmandt—a nonlawyer witness—had some difficulty answering Patent Owner’s questions concerning the law of obviousness as applied in the Petition, we give no weight to such testimony; instead, we consider and weigh his testimony about the technology at issue, including the skilled artisan’s understandings of Teller. We note when asked more clear questions by Patent Owner’s counsel, such as, “[U]nder Ground 1, is it fair to say that you’re combining Teller with the common sense of [the skilled artisan]?” Mr. Schmandt answered, “No. That’s not correct.” Ex. 2008, 73:17–21; *see id.* at 71:6–77:15. Also, when asked on redirect, “For Ground 1, did you use the knowledge of [the skilled artisan] or common sense to supply a claim limitation?” Mr. Schmandt answered, “No. I found all of the teachings for the limitations in Teller.” *Id.* at 119:9–13; *but see* PO Resp. 19 n.4 (Patent Owner asserting contradictory testimony and witness coaching).

Finally, we find unavailing Patent Owner’s argument that Petitioner’s characterization in the Petition of each ground being “in view of knowledge of a POSA” (Pet. 12) necessarily means Petitioner uses “common sense” to supply the allegedly “missing” limitation noted above. PO Resp. 17–20. To repeat, as discussed above, we find on the complete record before us that the skilled artisan would have understood Teller to at least fairly suggest this

limitation, and thus, the limitation is not “missing” in Teller. We find Petitioner’s use of “in view of knowledge of [the skilled artisan]” fairly aligns with Petitioner’s arguments that the skilled artisan, with her ordinary knowledge and skill, would read or understand Teller to at least fairly suggest the features of limitation 1[G] (even if not explicitly disclosed therein). *See Syntex*, 407 F.3d at 1380 (“What a reference teaches or suggests must be examined in the context of the knowledge, skill, and reasoning ability of a skilled artisan.”); Pet. Reply 12 (“[T]he [Petition’s] headings are consistent with the pages of analysis that follow, which rely on the knowledge of [the skilled artisan] to apply Teller’s teachings.”).

Accordingly, based on the foregoing evidence, Petitioner contends, and we find, both (a) Teller at least fairly suggests limitation 1[G], namely, “transmit the position of the first electronic device and the status to the external electronic device in response to the status indicating that the wireless tag and the first electronic device are outside of the predetermined range,” as recited in independent claim 1; and (b) the skilled artisan would have had a rational reason to modify Teller to arrive at the invention as recited in independent claim 1 (i.e., to include the features of limitation 1[G] with the other features of claim 1).

(3) Undisputed Limitations

Petitioner contends the remaining limitations of independent claim 1, namely, limitations 1[PRE], 1[A]–1[C], 1[E], 1[F], and 1[H]–1[L], also are taught or at least fairly suggested by Teller in view of the knowledge of the skilled artisan. Pet. 24–27, 29–38, 40–46. Petitioner provides a detailed assessment of where it believes the features of these limitations reside in Teller or how they are otherwise taught or suggested by Teller, and where

relevant, provides sufficient rational reason(s) for modifying Teller's teachings to arrive at the subject limitations, all with references to the declaration testimony of Mr. Schmandt. *See id.* (citing Ex. 1003 ¶¶ 127–141, 149–162, 170–185); *see also* Ex. 1003 ¶¶ 111–126. Patent Owner does not contend that these remaining limitations in claim 1 are absent in Teller (*see* PO Resp. 15, 33; *see generally id.*), and therefore, has waived such arguments. *See* 37 C.F.R. § 42.23(a) (“Any material fact not specifically denied may be considered admitted.”); *Nuvasive*, 842 F.3d at 1379–82 (holding that patent owner waived arguments on an issue that were not raised in its response after institution); *Papst Licensing*, 924 F.3d at 1250 (holding patent owner forfeited argument for patentability not presented to the Board); *Bradium*, 923 F.3d at 1048 (explaining that arguments not presented to the Board are waived). For the reasons set forth in the Petition (Pet. 24–27, 29–38, 40–46), and based on the evidence cited therein (*see, e.g.*, Ex. 1003 ¶¶ 111–141, 149–162, 170–185), we are persuaded that Petitioner establishes that both (a) Teller teaches or at least fairly suggests each of these remaining limitations; and (b) where relevant, the skilled artisan would have had a rational reason to modify Teller to arrive at the invention as recited in independent claim 1 (i.e., to include the features of certain of the remaining limitations with the other features of claim 1).

(4) Conclusion

For the reasons expressed above, and based on the complete record before us, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claim 1 is unpatentable as obvious over Teller (or Teller

in view of the knowledge of the skilled artisan, as characterized in the Petition).

b) Independent Claims 10, 13, and 17 and Dependent Claims 3, 4, 6–9, 11, 12, 14–16, and 18–20

Petitioner contends independent claims 10, 13, and 17 are substantially the same as independent claim 1, except that features of “system” claim 1 are variously embodied in a “software module” (claim 10), “method” (claim 13), and another “system” (claim 17). Pet. 54–57 (citing Ex. 1003 ¶¶ 112–126, 217–218, 220, 222–233), 61–64 (citing Ex. 1003 ¶¶ 112–126, 245–249), 66–69 (citing Ex. 1003 ¶¶ 112–126, 259, 260, 268). We agree with Petitioner that independent claims 10, 13, and 17 recite limitations commensurate in scope with independent claim 1 (but for the different environments of software module, method, and system). Patent Owner does not present any separate arguments that are distinct to any of these claims, and therefore, has waived such arguments. *See* 37 C.F.R. § 42.23(a); *Nuvasive*, 842 F.3d at 1379–82; *Papst Licensing*, 924 F.3d at 1250; *Bradium*, 923 F.3d at 1048. Rather, Patent Owner generally is of the view its alleged deficiencies in the Petition with respect to claim 1 are also applicable to independent claims 10, 13, and 17. *See* PO Resp. 15, 33; *see generally id.* For the same reasons provided above for independent claim 1, as well as the foregoing arguments and evidence submitted by Petitioner concerning claims 10, 13, and 17, we conclude that Petitioner has demonstrated by a preponderance of the evidence that independent claims 10, 13, and 17 are unpatentable as obvious over Teller (or Teller in view of the knowledge of the skilled artisan, as characterized in the Petition).

Petitioner also contends dependent claims 3, 4, 6–9, 11, 12, 14–16, and 18–20 would have been unpatentable as obvious over Teller (or Teller in view of the knowledge of the skilled artisan, as characterized in the Petition). Pet. 24. The Petition provides a detailed assessment of these claims, with references to the Petition’s analysis of claim 1, disclosures in Teller, and the declaration testimony of Mr. Schmandt. Pet. 46–54, 57–61, 64–66, 69–77. Patent Owner does not present any separate arguments that are distinct to any of these claims, and therefore, has waived such arguments. *See* 37 C.F.R. § 42.23(a); *Nuvasive*, 842 F.3d at 1379–82; *Papst Licensing*, 924 F.3d at 1250; *Bradium*, 923 F.3d at 1048. Rather, Patent Owner generally is of the view its alleged deficiencies in the Petition with respect to claim 1 are also applicable to claims 3, 4, 6–9, 11, 12, 14–16, and 18–20. *See* PO Resp. 15, 33; *see generally id.* For the same reasons provided above for independent claim 1, as well as the foregoing arguments and evidence submitted by Petitioner concerning dependent claims 3, 4, 6–9, 11, 12, 14–16, and 18–20, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 3, 4, 6–9, 11, 12, 14–16, and 18–20 are unpatentable as obvious over Teller (or Teller in view of the knowledge of the skilled artisan, as characterized in the Petition).

c) Summary

For the foregoing reasons, and the reasons stated in the Petition (Pet. 24–77), we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 1, 3, 4, and 6–20 are unpatentable as obvious over Teller (or Teller in view of the knowledge of the skilled artisan, as characterized in the Petition).

*E. Obviousness of Claims 1–21 over Teller, Huang, and
“Knowledge of a POSA”*

Petitioner contends claims 1–21 are unpatentable under 35 U.S.C. § 103 as obvious over the combination of Teller (Ex. 1004) and Huang (Ex. 1005) in view of the “knowledge of a POSA.” Pet. 77–89; Pet. Reply 18–24. More specifically, Petitioner contends “*Teller* discloses or renders obvious all elements of claims 1, 3–4, 6–9, and 10–20,” but “to the extent that *Teller* is found to not disclose or render obvious aspects” of 1[F], 7[D], 10[E], 13[A], 17[F], 1[G], 7[E], 10[D], 13[B], and 17[G], “the *Teller-Huang* combination renders these elements obvious.” Pet. 77 (citing Ex. 1003 ¶¶ 280–409). Petitioner also contends “[t]he *Teller-Huang* combination renders all elements of claims 2, 5, and 21 obvious.” *Id.* Patent Owner opposes Petitioner’s contentions. PO Resp. 33–42; PO Sur-Reply 20–24. For the reasons expressed below, and based on the complete record before us, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1–21 are unpatentable as obvious over Teller and Huang (or Teller and Huang in view of the knowledge of the skilled artisan, as characterized in the Petition). We turn first to an overview of Huang.

1. Overview of Huang (Ex. 1005)

Huang generally is directed to “[a] method for reminding objects being away, a communication device and a computer readable medium using the same.” Ex. 1005, 2:66–3:1. Huang discloses:

In the proposed method for reminding objects being away, it is detected whether a handheld device is currently away from a specified object within a user-defined safety zone. When the specified object is not in the safety zone, the handheld device immediately outputs a warning sound signal to remind the user

to bring the specified object. When the specified object is in the safety zone and is away from the handheld device, the handheld device does not output the warning sound signal, but merely records current environmental parameters (for example, a current time, a current geographic location, a device name of a nearby device, recording surrounding audio signals, etc.).

Id. at 3:1–14. Figure 6 of Huang is reproduced below.

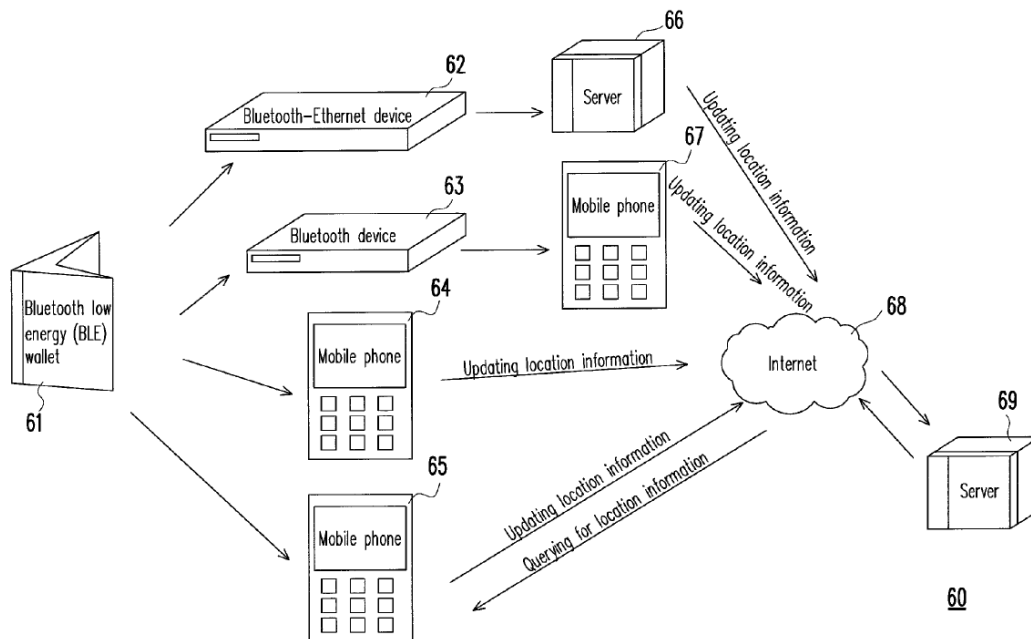


FIG. 6

Figure 6 depicts a schematic diagram of an object tracking system.

Id. at 2:58–59, Fig. 6. Figure 6 depicts object tracking system 60 with multiple ways to update object locations, and includes Bluetooth low-energy (“BLE”) wallet 61, Bluetooth-Ethernet device 62, Bluetooth device 63, mobile phone 64, mobile phone 65, server 66, mobile phone 67, Internet 68, and server 69. *Id.* at 8:54–61.

According to Huang, one of various described ways of updating the location of BLE wallet 61, for example, is as follows:

A connection between the BLE wallet 61 and the Bluetooth-Ethernet device 62 is established, and the Bluetooth-Ethernet device 62 records ambient environmental parameters of the BLE wallet 61, *where the environmental parameters include the location information of the BLE wallet 61*. Then, the Bluetooth-Ethernet device 62 *updates the location information of the BLE wallet 61 to the server 66*, and the server 66 *updates the location information to the server 69 through the Internet 68*. The server 69 is the predetermined server mentioned in the embodiment of FIG. 5, which is configured for storing the locations of the BLE wallet 61 updated through various ways.

Ex. 1005, 8:62–9:9 (emphases added).

Petitioner contends Huang qualifies as prior art under 35 U.S.C. § 102(e) based on its filing date. Pet. 11. On this record, we have no evidence of an invention date other than the earliest possible effective filing date of the challenged claims. Thus, we determine that Huang qualifies as prior art under 35 U.S.C. § 102(e) because Huang’s filing date of February 21, 2012, is before the earliest possible effective filing date of the challenged claims, which is March 8, 2012. Ex. 1001, code (60); Ex. 1005, code (22).

We further discuss below the disclosure of Huang in connection with the parties’ arguments.

2. Limitations 1[F], 7[D], 10[E], 13[A], and 17[F]

Claim limitation 1[F] recites “transmit the position of the first electronic device and the status to an external electronic device in response to the status indicating that the wireless tag and the first electronic device are within the predetermined range.” *See* Section II.C, *supra*. The parties do not dispute that limitations designated as 7[D], 10[E], 13[A], and 17[F] recite limitations commensurate in scope with limitation 1[F].

Petitioner argues *Teller* discloses that “lost” messages and “found” messages are transmitted to the monitoring-support system (“external electronic device”). Pet. 78. Petitioner argues Huang discloses:

“environmental parameters related to the connection establishment are recorded” and “[a]fter,” “the first communication device 52 updates the environmental parameters to a predetermined server” so the “user of the [tag] can query for a current location . . . through the predetermined server.” Ex[1005],8:1–26. Huang teaches that “environmental parameters” include “current geographic location,” which is the “current geographic location . . . of the communication device.” Ex[1005],3:7–14, 4:30–35, FIG.5.

Pet. 78 (emphases omitted, alterations in original). Petitioner argues that in Huang the “‘location information of the [tag]’ updated to the server is the ‘latest geographic location’ of the communication device (‘first electronic device’).” Pet. 79 (alteration by Petitioner) (quoting Ex. 1005, 9:20–27).

Given the foregoing disclosures, Petitioner argues the skilled artisan “would [have been] motivated to implement the functionality of *Huang* into *Teller*’s system to provide updated information about a tag to the monitoring-support system of *Teller* as it is determined to ensure that the latest information is available.” Pet. 78. Petitioner also argues the skilled artisan “would [have been] motivated [to] implement the contemporaneous updating of *Huang* into the system of *Teller* to transmit *Teller*’s ‘found’ message to the monitoring-support server inclusive of the location of the monitoring device and in response to the monitoring device determining that the tag is within the claimed ‘predetermined range.’” Pet. 79 (citing Ex. 1003 ¶¶ 301–305, 350–351, 369–371, 384, 397). Petitioner proffers the skilled artisan “would [have been] motivated to do this to improve *Teller*’s identification and indication of an item’s ‘lost’ or ‘found’ status by ensuring

that a ‘user . . . can track the current location’ and ‘quickly find the lost specified object.’” Pet. 87–88 (citing, *inter alia*, Ex. 1003 ¶ 285) (alteration in original). Petitioner also argues that its proffered combination of Teller and Huang “simply combine[s] familiar elements according to known methods to yield predictable results,” and that the skilled artisan “would have had a reasonable expectation of success in combining these wireless tag tracking systems because each system would work as in their respective disclosures, and the references demonstrate that [the skilled artisan] could have combined the disclosed features with reasonable expectation of success in doing so.” Pet. 88–89 (citing Ex. 1003 ¶ 288). Based on the complete record before us, we find Petitioner’s arguments persuasive.

Patent Owner does not contend that limitation 1[F] is absent from the combined teachings of Teller and Huang (*see generally* PO Resp.), and therefore, has waived such arguments. *See* 37 C.F.R. § 42.23(a); *Nuvasive*, 842 F.3d at 1379–82; *Papst Licensing*, 924 F.3d at 1250; *Bradium*, 923 F.3d at 1048. Patent Owner instead addresses a similar limitation, 1[G], discussed below.

Accordingly, based on the foregoing evidence, Petitioner contends, and we find, that the skilled artisan would have had a rational reason to combine or modify Teller with Huang to achieve limitation 1[F], namely, “transmit the position of the first electronic device and the status to an external electronic device in response to the status indicating that the wireless tag and the first electronic device are within the predetermined range,” as recited in independent claim 1, as well as limitations 7[D], 10[E], 13[A], and 17[F], which recite limitations commensurate in scope with limitation 1[F].

3. *Limitations 1[G], 7[E], 10[D], 13[B], and 17[G]*

As discussed above, claim limitation 1[G] recites “transmit the position of the first electronic device and the status to the external electronic device in response to the status indicating that the wireless tag and the first electronic device are outside of the predetermined range.” *See* Section II.C, *supra*. The parties do not dispute that limitations designated as 7[E], 10[D], 13[B], and 17[G] recite limitations commensurate in scope with limitation 1[G].

Petitioner argues that, “[f]or the same reasons as for elements 1[F], 7[E], 10[E], 13[A], 17[F]” (*see* Section III.E.2, *supra*), the skilled artisan “would also [have been] motivated to implement the updating functionality of *Huang* in *Teller*’s system to provide updated position and status about a tag to the monitoring-support system of *Teller* as it is determined, to ensure that the latest information is available.” Pet. 79 (citing Ex. 1003 ¶¶ 306–309, 352–353, 367–368, 385, 393). Based on the complete record before us, we find Petitioner’s arguments persuasive.

Patent Owner again argues in various forms that Petitioner relies on the skilled artisan’s knowledge or “common sense” to supply a missing limitation without providing sufficient support for doing so. PO Resp. 34–42; PO Sur-Reply 20–24. In particular, Patent Owner argues “[b]oth *Teller* and *Huang* are missing Limitation 1[G].” PO Resp. 36; *see id.* at 36–39. Patent Owner then argues “[i]n an attempt to overcome this clear deficiency, the Petition resorts to [the skilled artisan’s] purported common knowledge to supply the missing Limitation 1[G].” *Id.* at 38–39. Based on this alleged premise that Petitioner relies on the skilled artisan’s “common sense” or “knowledge” to supply limitation 1[G], Patent Owner

then argues the Petition relies on such knowledge without satisfying the standard in *Arendi*, 832 F.3d at 1361. *Id.* at 34–42; PO Sur-Reply 20–24. Based on the complete record before us, we find Patent Owner’s arguments unavailing, as discussed below.

We disagree with Patent Owner’s premise. Based on its argument outlined above, we understand Petitioner instead to argue that the skilled artisan would have been motivated to combine or modify Teller’s teachings concerning its “Peer-to-Peer Lost and Found Network” reporting a “lost” item with Huang’s teachings of contemporaneous updating of environmental factors to a predetermined server, where such environmental factors include “current geographic location” (the “current geographic location . . . of the communication device”), to achieve limitation 1[G]. Pet. 78–79, 87–89 (emphasis omitted, alteration in original). The test for obviousness is not whether the claimed invention is expressly suggested in any one or all of the references, as argued by Patent Owner, but whether the claimed subject matter would have been obvious to those of ordinary skill in the art *in light of the combined teachings of those references*. See *Keller*, 642 F.2d at 425; *Burckel*, 592 F.2d at 1179 (“[A] reference must be considered not only for what it expressly teaches, but also for what it fairly suggests.”). We are persuaded that Petitioner’s cited evidence provides sufficient rational reasons to combine or modify Teller’s teachings with Huang’s teachings as above, and that the skilled artisan would have had a reasonable expectation of success in doing so. See, e.g., Pet. 87–88 (The skilled artisan “would [have been] motivated to do this to improve *Teller*’s identification and indication of an item’s ‘lost’ or ‘found’ status by ensuring that a ‘user . . . can track the current location’ and ‘quickly find the lost specified object.’”)

(citing, *inter alia*, Ex. 1003 ¶ 285) (emphasis omitted, alteration in original); Pet. Reply 19–20, 23–24.

Accordingly, based on the foregoing evidence, Petitioner contends, and we find, that the skilled artisan would have had a rational reason to combine or modify Teller with Huang to achieve limitation 1[G], namely, “transmit the position of the first electronic device and the status to the external electronic device in response to the status indicating that the wireless tag and the first electronic device are outside of the predetermined range,” as recited in independent claim 1, as well as limitations 7[E], 10[D], 13[B], and 17[G], which recite limitations commensurate in scope with limitation 1[G].

4. *Limitation 1[D]*

Patent Owner argues the combination of Teller and Huang does not teach limitation 1[D], and relies upon its same arguments that we address above in Section III.D.2.a.1. PO Resp. 34. Thus, for the same reasons provided above in Section III.D.2.a.1 regarding limitation 1[D], we find Patent Owner’s argument unavailing.

5. *Dependent Claims 2, 5, and 21*

Petitioner also contends dependent claims 2, 5, and 21 would have been unpatentable as obvious over the combination of Teller and Huang (or Teller and Huang in view of the knowledge of the skilled artisan, as characterized in the Petition). Pet. 80–89. The Petition provides a detailed assessment of these claims, with references to the Petition’s analysis of claim 1, disclosures in Teller and Huang, and the declaration testimony of Mr. Schmandt. Pet. 80–89. Patent Owner does not present any separate arguments that are distinct to any of these claims, and therefore, has waived

such arguments. *See* 37 C.F.R. § 42.23(a); *Nuvasive*, 842 F.3d at 1379–82; *Papst Licensing*, 924 F.3d at 1250; *Bradium*, 923 F.3d at 1048. Rather, Patent Owner generally is of the view its alleged deficiencies in the Petition with respect to claim 1 are also applicable to claims 2, 5, and 21. *See* PO Resp. 42–43. For the same reasons provided above for independent claim 1, as well as the foregoing arguments and evidence submitted by Petitioner concerning dependent claims 2, 5, and 21, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 2, 5, and 21 are unpatentable as obvious over the combination of Teller and Huang (or Teller and Huang in view of the knowledge of the skilled artisan, as characterized in the Petition).

6. *Summary*

For the foregoing reasons, and the reasons stated in the Petition (Pet. 77–89), we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 1–21 are unpatentable as obvious over the combination of Teller and Huang (or Teller and Huang in view of the knowledge of the skilled artisan, as characterized in the Petition).

F. Obviousness of Claims 2, 5, 9, 12, and 21 over Teller, Yan, and “Knowledge of a POSA”

Petitioner contends claims 2, 5, 9, 12, and 21 are unpatentable under 35 U.S.C. § 103 as obvious over the combination of Teller (Ex. 1004) and Yan (Ex. 1006) in view of the “knowledge of a POSA.” Pet. 89–96. More specifically, Petitioner contends “*Teller* discloses or renders obvious all elements of claims 1, 9, 10, 12, and 17. To the extent *Teller* is found to not disclose or render obvious claim 12, the *Teller-Yan* combination renders this claim obvious,” and the “*Teller-Yan* combination renders all elements of

claims 2, 5, 9, and 21 obvious.” Pet. 89 (citing Ex. 1003 ¶¶ 410–440). The Petition provides a detailed assessment of these claims, with references to the Petition’s analysis of claim 1, disclosures in Teller and Yan, and the declaration testimony of Mr. Schmandt. Pet. 89–96. Patent Owner does not present any separate arguments that are distinct to any of these claims, and therefore, has waived such arguments. *See* 37 C.F.R. § 42.23(a); *Nuvasive*, 842 F.3d at 1379–82; *Papst Licensing*, 924 F.3d at 1250; *Bradium*, 923 F.3d at 1048. Rather, Patent Owner generally is of the view its alleged deficiencies in the Petition with respect to claim 1 are also applicable to all Challenged Claims. *See* PO Resp. 43 (Ground 3). For the same reasons provided above for independent claim 1, as well as the foregoing arguments and evidence submitted by Petitioner concerning dependent claims 2, 5, 9, 12, and 21, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 2, 5, 9, 12, and 21 are unpatentable as obvious over the combination of Teller and Yan (or Teller and Yan in view of the knowledge of the skilled artisan, as characterized in the Petition).

G. Obviousness of Claims 5 and 12 over Teller, Wassingbo, and “Knowledge of a POSA”

Petitioner contends claims 5 and 12 are unpatentable under 35 U.S.C. § 103 as obvious over the combination of Teller (Ex. 1004) and Wassingbo (Ex. 1007) in view of the “[k]nowledge of a POSA.” Pet. 96–100. More specifically, Petitioner contends “*Teller* discloses or renders obvious all elements of claims 1, 10, and 12. To the extent *Teller* is found to not disclose or render obvious claim 12, the *Teller-Wassingbo* combination renders this claim obvious,” and “additionally renders all elements of

claim 5 obvious.” Pet. 96 (citing Ex. 1003 ¶¶ 441–453). The Petition provides a detailed assessment of these claims, with references to the Petition’s analysis of claim 1, disclosures in Teller and Wassingbo, and the declaration testimony of Mr. Schmandt. Pet. 96–100. Patent Owner does not present any separate arguments that are distinct to any of these claims, and therefore, has waived such arguments. *See* 37 C.F.R. § 42.23(a); *Nuvasive*, 842 F.3d at 1379–82; *Papst Licensing*, 924 F.3d at 1250; *Bradium*, 923 F.3d at 1048. Rather, Patent Owner generally is of the view its alleged deficiencies in the Petition with respect to claim 1 are also applicable to all Challenged Claims. *See* PO Resp. 43–44 (Ground 4). For the same reasons provided above for independent claim 1, as well as the foregoing arguments and evidence submitted by Petitioner concerning dependent claims 5 and 12, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 5 and 12 are unpatentable as obvious over the combination of Teller and Wassingbo (or Teller and Wassingbo in view of the knowledge of the skilled artisan, as characterized in the Petition).

H. Obviousness of Claims 7, 8, and 13–16 over Teller, Wassingbo, Thorn, and “Knowledge of a POSA”

Petitioner contends claims 7, 8, and 13–16 are unpatentable under 35 U.S.C. § 103 as obvious over the combination of Teller (Ex. 1004), Wassingbo (Ex. 1007), and Thorn (Ex. 1008) in view of the “knowledge of a POSA.” Pet. 100–04. More specifically, Petitioner contends “*Teller* discloses or renders obvious all elements of claims 1, 7, 8, and 13–16. To the extent *Teller* is found to not disclose or render obvious claims 7, 8, and 13–16, the *Teller-Wassingbo-Thorn* combination renders all limitations

of these claims obvious.” Pet. 100 (citing Ex. 1003 ¶¶ 454–492). The Petition provides a detailed assessment of these claims, with references to the Petition’s analysis of claim 1, disclosures in Teller, Wassingbo, and Thorn, and the declaration testimony of Mr. Schmandt. Pet. 100–04. Patent Owner does not present any separate arguments that are distinct to any of these claims, and therefore, has waived such arguments. *See* 37 C.F.R. § 42.23(a); *Nuvasive*, 842 F.3d at 1379–82; *Papst Licensing*, 924 F.3d at 1250; *Bradium*, 923 F.3d at 1048. Rather, Patent Owner generally is of the view its alleged deficiencies in the Petition with respect to claim 1 are also applicable to all Challenged Claims. *See* PO Resp. 44 (Ground 5). For the same reasons provided above for independent claim 1, as well as the foregoing arguments and evidence submitted by Petitioner concerning dependent claims 7, 8, and 13–16, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 7, 8, and 13–16 are unpatentable as obvious over the combination of Teller, Wassingbo, and Thorn (or Teller, Wassingbo, and Thorn in view of the knowledge of the skilled artisan, as characterized in the Petition).

IV. PETITIONER’S MOTION TO EXCLUDE EVIDENCE AND OBJECTIONS TO DEMONSTRATIVES

Petitioner moves to exclude paragraphs 29–41 of the Declaration of Dr. Daniel W. Engels (Ex. 2009), Patent Owner’s declarant. Mot. Excl. 1–4. We dismiss this motion as moot because, in this Decision, we do not rely upon any of Dr. Engels’ testimony that Petitioner seeks to exclude.

Petitioner also objected to certain aspects of Patent Owner’s demonstratives used during oral argument. Papers 46–47. We deem these objections moot because, in this Decision, we do not rely upon any of Patent

Owner’s allegedly “new” arguments or evidence presented in its demonstratives that are the subject of Petitioner’s objections.

V. CONCLUSION⁹

Claim(s)	35 U.S.C. §	Reference(s)/ Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1, 3, 4, 6–20	103	Teller	1, 3, 4, 6–20	
1–21	103	Teller, Huang	1–21	
2, 5, 9, 12, 21	103	Teller, Yan	2, 5, 9, 12, 21	
5, 12	103	Teller, Wassingbo	5, 12	
7, 8, 13–16	103	Teller, Wassingbo, Thorn	7, 8, 13–16	
Overall Outcome			1–21	

⁹ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this Decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. §§ 42.8(a)(3), (b)(2).

VI. ORDER

Upon consideration of the record, it is:

ORDERED that claims 1–21 of U.S. Patent No. 10,163,318 B2 are unpatentable;

FURTHER ORDERED that Petitioner’s Motion to Exclude Evidence (Paper 39) is dismissed as moot; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to this proceeding seeking judicial review of the Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2021-00927
Patent 10,163,318 B2

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