

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BANK OF AMERICA, N.A.,
Petitioner,

v.

NANT HOLDINGS IP, LLC,
Patent Owner.

IPR2021-01304
Patent 8,478,036 B2

Before JAMESON LEE, THOMAS L. GIANNETTI, and
STEPHEN E. BELISLE, *Administrative Patent Judges*.

BELISLE, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Case Posture*

Bank of America, N.A. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1, 10, 12, 13, and 15 (“Challenged Claims”) of U.S. Patent No. 8,478,036 B2 (Ex. 1001, “the ’036 patent”). Petitioner identifies itself and Bank of America Corporation as real parties in interest. Pet. 64. Nant Holdings IP, LLC (“Patent Owner”) identifies itself as a real party in interest (Paper 4, 2), and timely filed a Preliminary Response to the Petition (Paper 6, “Prelim. Resp.”). In addition, with prior authorization from the Board, the parties filed supplemental briefing concerning the Preliminary Response. Paper 7 (“Reply”); Paper 8 (“Sur-Reply”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314(b) (2018); 37 C.F.R. § 42.4(a) (2021). We may not institute an *inter partes* review “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim. 37 C.F.R. § 42.108(a).

Applying those standards, and upon consideration of the information presented in the Petition, Preliminary Response, and supplemental briefing, we determine that Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the ’036 patent is unpatentable. Accordingly, we institute an *inter partes* review as to all Challenged Claims of the ’036 patent on all grounds raised in the Petition. We base our factual

findings and conclusions at this stage of the proceeding on the evidentiary record developed so far. This is not a final decision as to the construction of any claim term or the patentability of any claim. Any final decision shall be based on the full trial record, including any response timely filed by Patent Owner. Any arguments not raised by Patent Owner in a timely filed response may be deemed waived, even if they were presented in the Preliminary Response.

B. Related Proceeding

The parties indicate that the '036 patent, along with seven other patents, are involved in one U.S. district court action, namely, *NantWorks, LLC and Nant Holdings IP, LLC v. Bank of America Corporation and Bank of America, N.A.*, No. 2:20-cv-07872 (C.D. Cal.) (“District Court Case”). Pet. 64; Paper 4, 2. Petitioner also states, “All of the patents claim priority to Provisional Application Nos. 60/246,295 and 60/317,521. There appears to be no pending application that claims priority to those two applications.” Pet. 65.

C. The '036 Patent

The '036 patent is titled “Image Capture and Identification System and Process,” and issued on July 2, 2013, from U.S. Patent Application No. 13/410,577, filed March 2, 2012, and claims priority through a series of continuing applications to U.S. Provisional Patent Applications Nos. 60/317,521, filed September 5, 2001, and 60/246,295, filed November 6, 2000. Ex. 1001, codes (10), (21), (22), (45), (54), (60), (63).

The '036 patent describes “[t]raditional methods” for linking objects to digital information that involve applying a barcode, a radio or optical transceiver or transmitter, or some other means of identification to the

object, as well as modifying the image or object so as to encode detectable information. Ex. 1001, 3:29–35. However, according to the '036 patent, “[t]here is a need to determine the position and orientation of known objects based only on imagery of the objects,” “without modification or disfigurement of the object, [and] without the need for any marks, symbols, codes, barcodes, or characters on the object.” *Id.* at 1:36–51. The '036 patent states that it responds to this need by describing “a system and process for identifying digitally captured images without requiring modification to the object.” *Id.* at 4:20–22. But notwithstanding this additional capability, the '036 patent explicitly discloses that “*the present invention also can detect, decode, and identify images and objects based on traditional symbols* which may appear on the object, such as alphanumeric characters, *barcodes*, or 2-dimensional matrix codes.” *Id.* at 3:44–52 (emphases added).

Figures 1 and 2 of the '036 patent, reproduced below, collectively illustrate an embodiment of the patent. The following description refers to both figures.

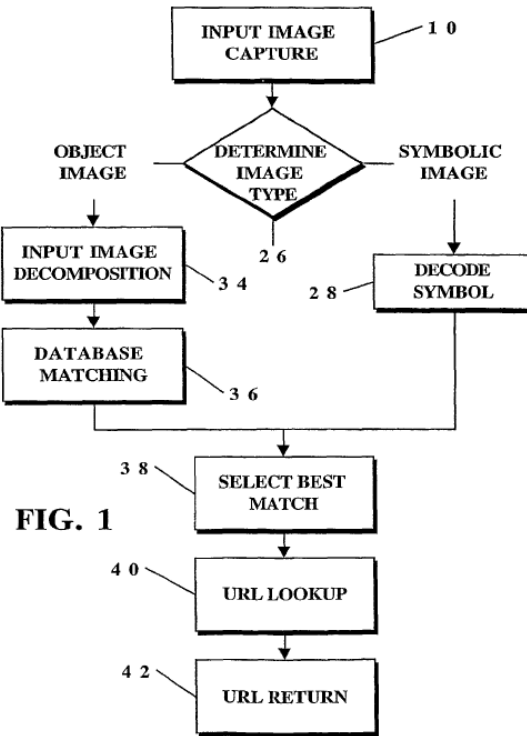


Figure 1 depicts a block diagram top-level algorithm flowchart.

Ex. 1001, 4:37–38, Fig. 1.

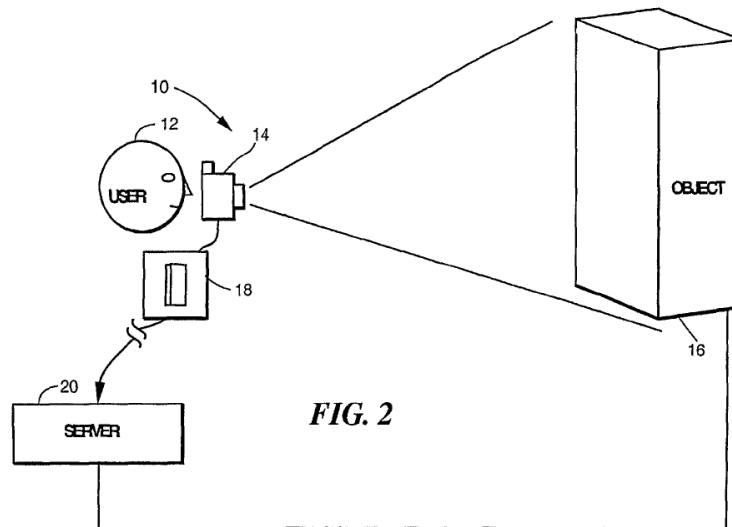


Figure 2 depicts an idealized view of image capture.

Ex. 1001, 4:39, Fig. 2.

According to the '036 patent, for image capture 10, user 12 utilizes a computer, mobile telephone, personal digital assistant, or other similar device 14 equipped with an image sensor (such as a CCD or CMOS digital camera). Ex. 1001, 5:23–26. User 12 aligns the sensor of image capture device 14 with object 16 of interest. *Id.* at 5:26–27. The linking process is then initiated, and device 14 captures digital image 18 of the scene at which it is pointed. *Id.* at 5:27–33. Image 18 is represented as three separate 2-D matrices of pixels, corresponding to the raw RGB (Red, Green, Blue) representation of the input image. *Id.* at 5:33–39. Image 18 is subsequently transferred to image processor/server 20. *Id.* at 5:41–49.

Image type determination 26 is accomplished with a discriminator algorithm which operates on input image 18 and determines whether the input image contains recognizable symbols, such as barcodes, matrix codes, or alphanumeric characters. Ex. 1001, 5:50–54. If such symbols are found, image 18 is sent to decode symbol process 28. *Id.* at 5:54–55. In decode symbol process 28, image 18 is analyzed to determine the location, size, and nature of the symbols. *Id.* at 5:66–67. The symbols are analyzed according to their type, and their content information is extracted. *Id.* at 5:67–6:3.

Image 18 may also or alternatively contain an object of interest, and may therefore also or alternatively be sent to the object image branch of the process flow. Ex. 1001, 5:55–65. In input image decomposition process 34, a “decomposition” of a high-resolution input image into several different types of quantifiable salient parameters is performed. *Id.* at 6:4–15. According to the '036 patent, this allows for multiple independent convergent search processes of the database to occur in parallel in database

matching 36, which “greatly improves image *match* speed and *match* robustness.” *Id.* at 6:7–10 (emphases added).

D. Illustrative Claim

The ’036 patent includes nineteen claims, of which claims 1, 10, 12, 13, and 15 are challenged. Claim 1 is the challenged (and only) independent claim. Claim 1 is illustrative and reproduced below.

1. A content provisioning system comprising:
a target database storing known targets of different types and recognition parameters associated with the known targets;
an identification platform coupled with the target database, and
that:
communicates with a mobile device capable of acquiring a digital representation of a scene containing at least a portion of a target;
receives the digital representation from the mobile device;
and
recognizes the target as a known target from the target database based on comparing parameters derived from the digital representation to recognition parameters associated with the known targets; and
a content service coupled with the identification platform, and
that:
obtains content information related to the known target;
and
sends the content information to at least one of the identification platform and the mobile device.

Ex. 1001, 24:2–22.

E. Applied References

Petitioner relies upon the following references:

Ogasawara, U.S. Patent No. 6,512,919 B2 (Ex. 1005, “Ogasawara”), filed March 30, 1999, issued January 28, 2003.

Bolle et al., U.S. Patent No. 5,546,475 (Ex. 1006, “Bolle”), filed April 29, 1994, issued August 13, 1996.

Pet. 8. Petitioner also relies upon the Declaration of Jeffrey J. Rodriguez, Ph.D. (Ex. 1003). Patent Owner supports its Preliminary Response with the Declaration of Chandrajit Bajaj, Ph.D. (Ex. 2001).

F. Asserted Ground of Unpatentability

Petitioner challenges the patentability of claims 1, 10, 12, 13, and 15 of the '036 patent based on the following ground.

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 10, 12, 13, 15	103 ¹	Ogasawara, Bolle

Pet. 8.

II. DISCRETIONARY DENIAL UNDER 35 U.S.C. § 314(a)

A. Overview

Patent Owner requests that we exercise our discretion under 35 U.S.C. § 314(a) to deny the Petition under *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”). Prelim. Resp. 19–31; see *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (“[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.”). According to Patent Owner, referring to the District Court Case, “Petitioner is plainly attempting to maintain parallel forums to assert its invalidity defenses, including invalidity defenses based on patents and printed publications in *both* forums.” Prelim. Resp. 19. For the reasons that follow, we decline to exercise our discretion to deny *inter partes* review.

¹ 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 '036 patent was filed before March 16, 2013, the effective date of the relevant amendment, the pre-AIA version of § 103 applies.

In assessing whether to exercise such discretion, the Board weighs the following factors:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court's trial date to the Board's projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board's exercise of discretion, including the merits.

Fintiv at 6. Recognizing that “there is some overlap among these factors” and that “[s]ome facts may be relevant to more than one factor,” the Board “takes a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Id.*

We address each *Fintiv* factor below.

B. Factor 1 (Stay of Parallel Proceeding)

At this time, neither party has requested a stay of the District Court Case. Pet. 61–62; Prelim. Resp. 28; *see* Ex. 1043, 2–3 (“Consistent with this Court’s rulings on motions to stay pending IPR proceedings in other cases, Defendants will wait to file a motion to stay the District Court proceedings after the PTAB has issued institution decisions on all pending IPR petitions, should those decisions warrant a motion to stay.”). We do not speculate about the likelihood of a stay, and find this factor does not weigh for or against exercising discretion to deny *inter partes* review in this case.

C. Factor 2 (Proximity of Court’s Trial Date)

In the District Court Case, on January 5, 2022, the court set trial to begin on April 25, 2023 (Ex. 1044, 2), which is over fourteen months *after* our deadline to decide whether to institute *inter partes* review in this case, and over two months *after* our deadline for issuing a final written decision if we were to institute (assuming no extension of the court’s trial date). Exs. 1043–1045. Accordingly, we find this factor weighs against exercising discretion to deny *inter partes* review.

D. Factor 3 (Investment in Parallel Proceeding) and Factor 4 (Overlap with Issues Raised in Parallel Proceeding)

Patent Owner faults Petitioner for delay in filing the Petition. Prelim. Resp. 26–28. According to Patent Owner, “Petitioner’s failure to explain its delay is especially egregious here, where that unexplained delay allowed the district court case to proceed and the parties and Court to expend significant resources on the litigation.” *Id.* at 27. Further, Patent Owner argues that the issues and arguments raised in the Petition are the same as those in the District Court Case. *Id.* at 24–26.

We do not agree that these factors favor exercising our discretion to deny *inter partes* review. Other than citing the *Markman* hearing by the district court, which resulted in a Claim Construction Ruling covering two contested limitations in the Challenged Claims (*see* Ex. 2006, 21–22), and service of initial contentions and discovery requests (Prelim. Resp. 27), Patent Owner does not support its contention that the parties and the Court have made a “tremendous investment” in the District Court Case (*id.* at 22). Moreover, Petitioner has been reasonably diligent, filing the Petition “just over a month after the parties filed their joint claim construction statement”

and within a few months of receiving Patent Owner’s narrowed infringement contentions. Pet. 60–61 (Petitioner highlighting that “Patent Owner filed the parallel district court litigation on August 27, 2020, during the global pandemic with work and travel restrictions, asserting infringement of eight patents with 264 total claims.”); *see* Prelim. Resp. 22 (acknowledging Petitioner filed the Petition about four months from service of initial infringement contentions in an eight-patent case).

Furthermore, citing *Sand Revolution II, LLC v. Continental Intermodal Group–Trucking LLC*, IPR2019-01393, Paper 24 (PTAB June 16, 2020) (informative), Petitioner filed a stipulation that if *inter partes* review is initiated, it will not assert invalidity of the asserted claims in the District Court Case based on any of the grounds listed in the Petition, “or on any other ground involving the Ogasawara and Bolle references, alone under 35 U.S.C. § 102, or in combination with any other reference under 35 U.S.C. § 103.” Ex. 1011, 2; *see* Pet. 58–59.

Patent Owner criticizes this as a “very narrow” stipulation that “is hardly any waiver at all.” Prelim. Resp. 21, 25. We disagree. Although Petitioner has not stipulated to forgo relying on all the patents and prior art publications that could have reasonably been raised in the *inter partes* review (*see Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12, 18–19 (precedential as to § II.A.)), Petitioner’s stipulation will likely contribute to streamlining the issues presented there as to the ’036 patent. *See Sand Revolution II*, Paper 24 at 11–12 (similar stipulation “mitigates to some degree the concerns of duplicative efforts between the district court and the Board, as well as concerns of potentially conflicting decisions”).

We are persuaded that the stipulation here is sufficient to “mitigate[] to some degree” the overlap caused by Petitioner’s reliance on Ogasawara and Bolle. Accordingly, we find on balance that these factors weigh against exercising discretion to deny *inter partes* review.

E. Factor 5 (Commonality of Parties in Parallel Proceeding)

There is no dispute that Petitioner is a party to the District Court Case. Pet. 62; Prelim. Resp. 29. Given that trial is set to occur after the statutory deadline for issuing a final written decision in this case, we determine this factor weighs at least slightly against exercising discretion to deny *inter partes* review. *See MED-EL Elektromedizinische Geräte Ges.m.b.H v. Advanced Bionics AG*, IPR2020-00190, Paper 15 at 14–15 (PTAB June 3, 2020) (Institution Decision) (overlap of issues and parties, especially with an uncertain trial date, weighs in favor of institution because petitioner would be estopped in district court from raising the same issues upon issuance of the Board’s final written decision).

F. Factor 6 (Other Circumstances)

Patent Owner contends “the merits of the grounds asserted in the instant Petition are far from strong.” Prelim. Resp. 30. Petitioner disagrees, arguing “the merits strongly weigh in favor of instituting trial as shown through the strength of the grounds in this Petition.” Pet. 62. We have reviewed Petitioner’s unpatentability arguments and Patent Owner’s preliminary responses, and based on the record before us, we disagree with Patent Owner that the merits are “far from strong.” Rather, we find that Petitioner has shown a reasonable likelihood of success on the merits as discussed below in Section III. Although Petitioner has met its burden for institution, we do not find that Petitioner’s showing is “particularly strong”

so as to weigh against exercising discretion to deny *inter partes* review under factor 6. *See Fintiv*, Paper 11 at 14–15 (noting that the merits favor institution under factor 6 “if the merits of a ground raised in the petition seem particularly strong”). Thus, we determine this factor is neutral.

We also do not agree with Patent Owner that we should consider the existence of trade secret and breach of contract claims in the District Court Case in our analysis. Prelim. Resp. 29–31. Patent Owner cites no authority for this argument. On the contrary, Petitioner’s argument (Pet. 62–64) that we should consider the complexity of the District Court Case involving multiple patents has been endorsed in *Apple, Inc. v. SEVEN Networks, LLC*, IPR2020-00156, Paper 10 at 21–22 (PTAB June 15, 2020), and more recently considered in *Satco Products, Inc. v. The Regents of the University of California*, IPR2021-00794, Paper 14 (PTAB Nov. 10, 2021) (Crumbley, J., concurring). However, although we see merit in Petitioner’s argument, we do not find it necessary to take a position on that issue in this proceeding in view of our holistic assessment below.

G. Holistic Assessment of Factors

We consider the above factors and take “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Fintiv*, Paper 11 at 6. Thus, based on our assessment of the *Fintiv* factors as a whole, we decline to exercise our discretion under 35 U.S.C. § 314(a) to deny *inter partes* review.

III. PATENTABILITY

A. Applicable Law

Petitioner challenges the patentability of claims 1, 10, 12, 13, and 15 of the ’036 patent on the ground that the claims would have been obvious

under 35 U.S.C. § 103 in light of the combination of Ogasawara and Bolle. “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”)) (emphasis added). 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.”² *Id.* The totality of the evidence submitted may show

² At this stage of the proceeding, Patent Owner has not presented objective evidence of non-obviousness.

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 teachings, 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)).

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 '036 patent:

would have had a range of knowledge roughly equivalent to the knowledge and/or training of a person holding the degree of Bachelor of Science in Electrical Engineering, Computer Science, Computer Engineering, or equivalent, and one to two years of experience working with image processing, image recognition, or a related field. . . . Individuals with additional education or additional practical experience could still be of ordinary skill in the art if that additional aspect compensates for a deficit in the other aspect of the requirements stated above.

Pet. 27 (citing Ex. 1003 ¶¶ 46–47). Patent Owner does not present an alternative definition at this stage of the proceeding. *See generally* Prelim. Resp.

We regard Petitioner’s proposed definition as reasonable, and consistent with the prior art before us. *See In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (determining that the Board of Patent Appeals and Interferences did not err in concluding that the level of ordinary skill in the art was best determined by the references of record). Accordingly, we apply

the level of skill set forth above, which also is consistent with the testimony of Dr. Rodriguez (Ex. 1003 ¶¶ 46–47).

C. Claim Construction – Recognizes Limitation

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) (2020); *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))).

Petitioner asserts that the parties have “offered competing constructions for two terms in the Challenged Claims before the district court.” Pet. 34. Petitioner argues “the prior art invalidates the Challenged Claims under any reasonable construction of the terms, and claim construction is therefore unnecessary [for purposes of this Petition].” Pet. 34. Nevertheless, the parties dispute the meaning of the limitation “recognizes the target as a known target from the target database based on comparing parameters derived from the digital representation to recognition parameters associated with the known targets,” as recited in independent claim 1. Hereinafter, this limitation is referred to as the “Recognizes Limitation.”

Petitioner proposes that the Recognizes Limitation means “identifies the target as a known target *by matching parameters* derived from the digital representation to recognition parameters of the known targets stored in the target database.” Pet. 41 (emphasis added); *see* Pet. 41–47. Petitioner asserts that in the district court “Patent Owner proposed ‘no construction necessary—plain and ordinary meaning.’” Pet. 41. Petitioner argues that Patent Owner’s plain and ordinary meaning before the district court includes an attempt “to read this limitation for purposes of infringement in the district court to mean using symbol information (e.g., Magnetic Ink Character Recognition (MICR)) derived from an image (e.g., of a check) to search a database storing known targets (e.g., acceptable checks) to determine

whether the target is a known target or not (e.g., non-acceptable checks).” Pet. 41. In this proceeding, however, Patent Owner argues Petitioner “misrepresents Patent Owner’s infringement contentions,” and that Petitioner’s proposed construction of the Recognizes Limitation is “not reasonable,” and is a “limiting rewrite of the plain and ordinary meaning of the claim language.” Prelim. Resp. 32–34 (emphasis omitted). Nevertheless, “Patent Owner does not object to the Board adopting the District Court’s construction of the [Recognizes Limitation],” discussed below. Prelim. Resp. 34.

After filing of the Petition, but before filing of the Preliminary Response, the district court in the District Court Case entered a *Markman* order construing the Recognizes Limitation, among others. *See* Ex. 2006, 16–18, 21–22.³ For that limitation, Patent Owner proposed the construction of “plain and ordinary meaning” in the District Court Case, as it does here. *Id.* at 15.

The district court construed the Recognizes Limitation to mean “recognizes the target as a known target from the target database based on comparing parameters derived from the digital representation to recognition parameters associated with the known targets *to find a match*.” Ex. 2006, 21–22 (emphasis added). In adopting this construction, the district court “agree[d] with Defendants [Petitioner] that the claimed invention requires making a ‘match’ ‘based on comparing parameters’ in order to ‘recognize[] the target as a known target from the target database.’” *Id.* at 17–18, 21.

³ Unless otherwise specified, citations to exhibits use the page numbers assigned by the parties, not the original page numbers.

The district court did not fully adopt Patent Owner's plain and ordinary meaning.

We have reviewed the district court's reasoning, as well as the '036 patent and other evidence of record before us, and agree that for reasons given by the district court, the Recognizes Limitation should be given the same construction as determined by the district court.

We therefore adopt the district court's construction for that term. Ex. 2006, 21–22. Accordingly, at this stage of the proceeding, we construe the Recognizes Limitation to mean “recognizes the target as a known target from the target database based on comparing parameters derived from the digital representation to recognition parameters associated with the known targets to find a match.” *See id.*

D. Patent Owner's “Shifting-Sands” Allegation

Patent Owner asserts Petitioner fails to identify with particularity the grounds on which the challenge to each claim is based, as required by 35 U.S.C. § 312(a)(3). Prelim. Resp. 35–36. According to Patent Owner, although Petitioner explicitly identifies Ground 1 (the only ground) as based on obviousness over the combination of Ogasawara and Bolle (Pet. 8), “Petitioner appears to also be asserting in Ground 1 that Ogasawara anticipates at least Claim 1.” Prelim. Resp. 35 (footnote omitted). Patent Owner's contention is based on Petitioner's asserting, within its arguments for Ground 1, that Ogasawara discloses each limitation of claim 1. *Id.* Although Petitioner has alleged that Ogasawara discloses every limitation of claim 1, Petitioner also has provided for contingencies in case Ogasawara does not disclose certain limitations of claim 1 and teachings from Bolle are needed to be combined with teachings from Ogasawara to render claim 1

obvious. *See, e.g.*, Pet. 41–47. Patent Owner also asserts that Petitioner’s attempt to account for multiple theories of claim construction with regard to the Recognizes Limitation while contending that no specific claim construction is necessary “add[s] to the confusion.” Prelim. Resp. 35–36.

Based on the record before us, we find Petitioner identifies with particularity the grounds on which the challenge to each claim is based. Indeed, in accordance with 37 C.F.R. § 42.104(b)(2) and as noted above, Petitioner explicitly identifies Ground 1 as based on obviousness over the combination of Ogasawara and Bolle. Pet. 8. Moreover, in identifying its only ground for unpatentability in this case, Petitioner identifies neither anticipation by Ogasawara nor obviousness based on Ogasawara alone as such grounds. We also do not find confusing Petitioner’s attempts to account for multiple potential theories of claim construction, while also stating that no claim construction is necessary. What Petitioner is alleging, in effect, is that whatever is the theory of claim construction, Petitioner prevails.

Accordingly, we find Patent Owner’s various “shifting-sands” arguments unavailing.

E. Obviousness of Claims 1, 10, 12, 13, and 15 over the Combination of Ogasawara and Bolle

Petitioner contends claims 1, 10, 12, 13, and 15 are unpatentable under 35 U.S.C. § 103 as obvious over the combination of Ogasawara (Ex. 1005) and Bolle (Ex. 1006). Pet. 35–57; Reply 1–5. Patent Owner opposes Petitioner’s contentions. Prelim. Resp. 37–50; Sur-Reply 1–5. Based on our review of the Petition, Preliminary Response, and supplemental briefing, we determine that Petitioner has established a

reasonable likelihood that it would prevail in showing that claims 1, 10, 12, 13, and 15 are unpatentable as obvious over the combination of Ogasawara and Bolle, as discussed below. We turn first to an overview of Ogasawara and Bolle.

1. Overview of Ogasawara (Ex. 1005)

Ogasawara relates generally to “an electronic shopping system which utilizes a program downloadable wireless video phone as a purpose-type dedicated terminal which enables a shopper to capture, recognize and decode captured images.” Ex. 1005, 1:16–21; *see id.* at code (57). In Ogasawara, an integral digital camera is attached to the wireless telephone to facilitate the selection of items to be purchased and is controlled to function as a bar code or product icon image capture device. *Id.* at code (57). Character or pattern recognition software translates the bar or icon code image into an appropriate item identifier. *Id.*

Figure 1 of Ogasawara is reproduced below.

FIG. 1

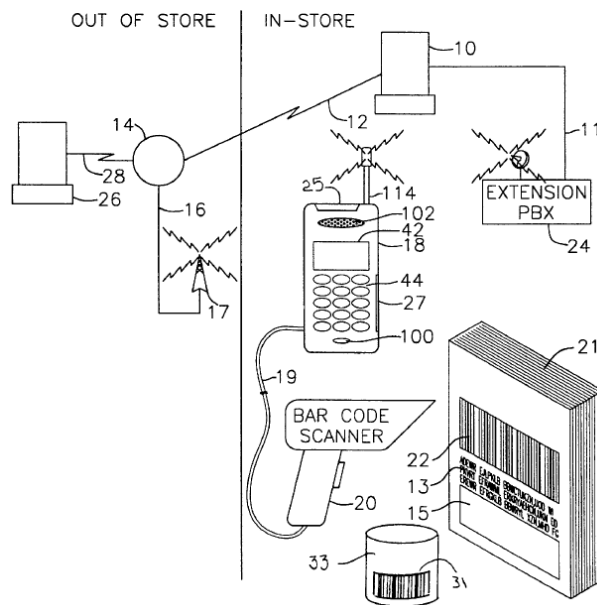


Figure 1 depicts a schematic overview of an electronic shopping system.

Ex. 1005, 4:9–10, Fig. 1.

Figure 1 of Ogasawara shows an electronic system comprising store server 10 in communication with a commercial telephone network 14.

Ex. 1005, 4:66–5:2. Commercial telephone network 14 facilitates a connection of store server 10 to wireless telephone 18. *Id.* at 5:10–11.

Optionally, external bar code scanner 20 communicates with the wireless telephone 18 via wire connection 19. *Id.* at 5:31–32. Alternatively, a built-in bar code scanner 25 and/or a built-in IC card reader/writer 27 are formed integrally with the wireless telephone 18. *Id.* at 5:36–38. In a store, a bar code on a purchased item 33 is scanned by bar code scanner 20 attached to a wireless telephone 18. *Id.* at 5:37–39. Catalog 21 of the items which can be

purchased contains a bar code 22 for each such item, and preferably also contains descriptive text 13 and a picture 15 of each item. *Id.* at 5:40–43.

Figure 10 of Ogasawara is reproduced below.

FIG. 10

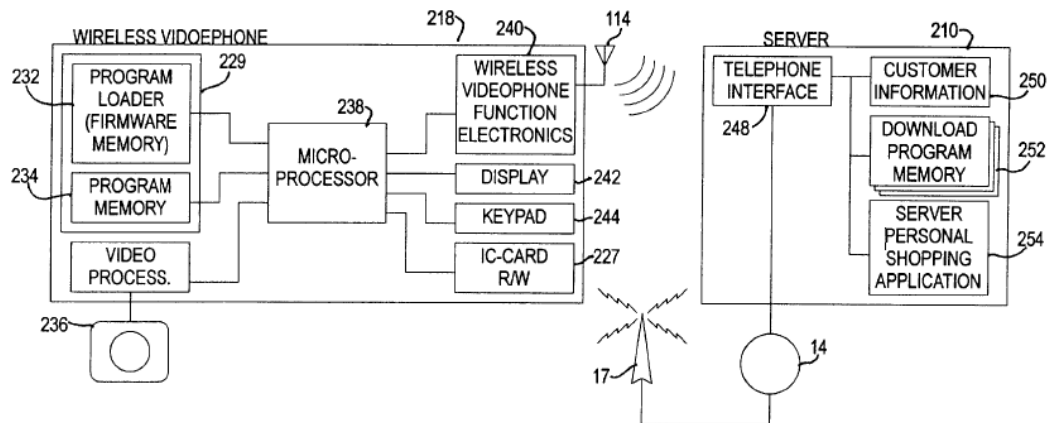


Figure 10 depicts a block diagram of an electronic shopping system having a wireless videophone.

Ex. 1005, 4:34–36, Fig. 10. Figure 10 illustrates wireless videophone 218 used in combination with store or remote server 210. *Id.* at 15:55–56.

Wireless videophone 218 includes miniature digital image capture device 236, such as a CCD camera system. *Id.* at 15:63–16:1. Digital camera 236 includes processing circuitry that translates the visual image acquired by the camera's lens into digital signals suitable for processing by microprocessor 238 into a form that can be transmitted by functional electronic section 240. *Id.* at 16:7–12.

As described by Ogasawara, since digital camera 236 can be provided to the wireless videophone 218 in place of a bar code scanner, the tailored purchase transaction program may additionally include character recognition and/or pattern recognition software, as well as bar code decode software.

This would allow the wireless videophone to function in a manner similar to the wireless telephone and bar code scanner embodiment illustrated in Figure 1. Ex. 1005, 18:15–22.

Ogasawara also discloses that advanced pattern recognition software is able to enhance the performance of the wireless videophone by offering the capability to capture merchandise information from items that are not identified by either a bar code or an alpha-numeric label. Ex. 1005, 23:11–15. According to Ogasawara, advanced pattern recognition software allows a consumer to capture a videographic image of an apple, for example, and to have the apple be recognized as such by the pattern recognition software. *Id.* at 23:16–19. “This capability is useful for any merchandise item having a distinct or identifiable shape or other visually identifiable characteristic. Such pattern recognition is accomplished within the wireless videophone, by specialized downloaded software.” *Id.* at 23:19–23.

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

2. Overview of Bolle (Ex. 1006)

Bolle relates generally to “recognizing (i.e., identifying, classifying, grading, and verifying) objects using computerized optical scanning devices,” and “a trainable system and method relating to recognizing bulk items using image processing.” Ex. 1006, 1:6–10; *see id.* at code (57). In Bolle, an image processing system takes digitized images of a scene. *Id.* at code (57). Using an algorithm, an object image is segmented from a background image. *Id.* The object image is then processed and compared to stored reference images. *Id.* The object is recognized when a match occurs. *Id.*

Figure 4 of Bolle is reproduced below.

FIG. 4

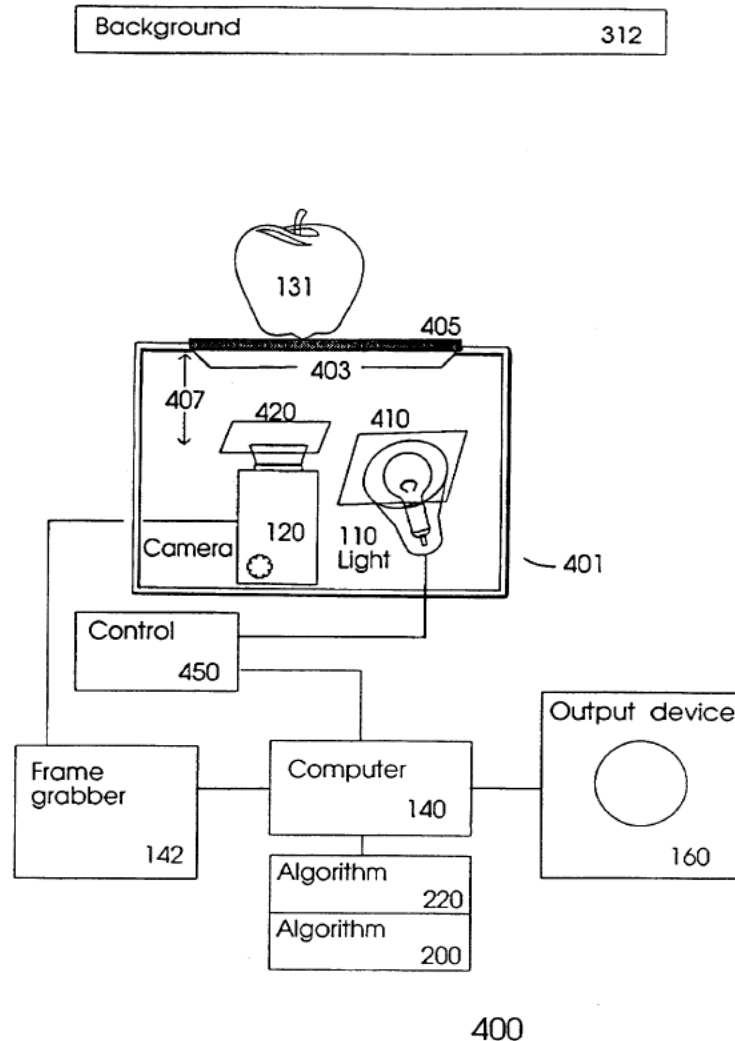


Figure 4 depicts a block diagram of an apparatus for segmenting images and recognizing an object in images.

Ex. 1006, 6:30–32, Fig. 4. Figure 4 shows a block diagram of system 400 for imaging scenes, segmenting object images 130 from their background image 311 of a physical background 312, and recognizing object(s) 131. *Id.* at 9:21–25. System 400 comprises opening 403 to allow object 131 to be imaged by camera 120 and illuminated by light 110. *Id.* at 9:39–43. The system further includes a segmenting algorithm for segmenting an image of

object 131 from an image of the scene. *Id.* at 10:17–19. After the image is segmented, computer 140 performs a computation to determine features of the target object. *Id.* at 12:58–62. Further, computer 140, via algorithm 200, compares normalized characteristics of the target object 131 to one or more normalized referenced object characteristics. *Id.* at 13:61–63.

Bolle further describes comparison/matching of the target characterization to the reference characterizations that is performed according to one or more matching algorithms, such as a nearest neighbor classification. Ex. 1006, 15:50–67.

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

3. *Analysis*

a) *Independent Claim 1*

Petitioner provides an element-by-element analysis of independent claim 1 in relation to Ogasawara and Bolle. Pet. 35–50; *see* Reply 1–5. Petitioner’s analysis relies on testimony from Dr. Rodriguez. Ex. 1003 ¶¶ 92–128. Patent Owner opposes and relies on testimony from Dr. Bajaj. Prelim. Resp. 48–50; *see id.* at 37–47; Ex. 2001 ¶¶ 36–40; Sur-Reply 1–5. As discussed below, Petitioner contends each limitation in claim 1 is met by the combination of Ogasawara and Bolle.

(1) *(Preamble) “A content provisioning system comprising:”*

Petitioner contends that Ogasawara meets the preamble by disclosing a content provisioning system (an electronic shopping system). Pet. 35 (citing Ex. 1003 ¶¶ 105–106; Ex. 1005, 1:16–21, 23:12–32). Patent Owner does not contend otherwise at this stage of the proceeding. Nonetheless, the

burden remains on Petitioner to demonstrate unpatentability. *See Dynamic Drinkware*, 800 F.3d at 1378. For the reasons given by Petitioner, we determine that Ogasawara meets this element of the claim.⁴

(2) “a target database storing known targets of different types and recognition parameters associated with the known targets”

Petitioner contends that Ogasawara discloses a target database (e.g., look-up table or file) storing known targets of different types (e.g., merchandise items in a grocery store) and recognition parameters (e.g., visually identifiable characteristics) associated with the known targets. Pet. 36 (citing Ex. 1003 ¶¶ 107–109). Petitioner argues:

Ogasawara teaches that with its system, “a variety of products,” such as “a loaf of bread, carton of milk, a bunch of broccoli, and the like,” can be imaged and “recognized by modern character and pattern recognition application routines.” Ex. 1005, 15:27–28, 20:55–67. Ogasawara further discloses that “numeric bar code data” [or “visually identifiable characteristic[s]” (*id.*, 21:1–8, 23:16–20)] derived from an image can be “associated to a corresponding product which can be retrieved from a Price Look Up (PLU) table or file.” *Id.*, 21:15–26. By using “a distinct or identifiable shape or other visually identifiable characteristic,” “[a]dvanced pattern recognition software allows a consumer to capture a videographic image of an apple, ... and to have the apple be recognized as such.” *Id.* 23:16–22. As discussed above [], a POSITA would understand that Ogasawara’s use of a look-up table or file to store numeric barcode data associated with a product would equally apply where visually identifiable characteristics of a target (e.g., an apple), not a barcode, are stored. Ex. 1003, ¶¶ 67, 74, 107; see also Ex. 1005, 21:1–5 (“no

⁴ Neither party at this stage of the proceeding argues that the preamble of claim 1 is limiting. We likewise express no view herein.

matter the form of the indicia captured by the digital video camera, the system operates in identical manner”).

Pet. 36–37 (emphasis added). Although Patent Owner does not dispute this limitation directly at this stage of the proceeding, Patent Owner argues in the context of the Recognizes Limitation that “[n]othing in this short description [i.e., the above-quoted ‘recognizing an apple’ disclosure] describes identifying an apple by ‘matching parameters,’ *much less matching them to recognition parameters in a target database.*” Prelim. Resp. 39 (emphasis added). Patent Owner also argues “Petitioner does not cite to anything in Ogasawara that discloses its barcode recognition software operates by matching parameters of the captured bar code *with recognition parameters of other bar codes in a database.*” Prelim. Resp. 40 (emphasis added).

We find Patent Owner’s argument persuasive that Ogasawara *alone* does not teach the subject limitation. Based on the record before us, we are not persuaded that the skilled artisan would find Ogasawara’s brief reference to “[a]dvanced pattern recognition software” (Ex. 1005, 23:11–12) a sufficient disclosure of a target database storing known targets of different types and recognition parameters associated with the known targets.

Petitioner also contends “it is unnecessary for purposes of this Petition to determine whether Ogasawara discloses this limitation, because Ogasawara in combination with Bolle expressly teaches such a target database.” Pet. 37 (citing Ex. 1003 ¶ 74). We note, in its Preliminary Response, Patent Owner argued that Ogasawara is not a self-enabling reference and thus could not alone render obvious or anticipate certain limitations in claim 1. Prelim. Resp. 45–47. But in its Sur-Reply, Patent Owner submitted that, “to be clear, [Patent Owner] is not asserting that Ogasawara must be enabled for the combination of Ogasawara and Bolle—

only that, Petitioner’s argument that claim 1 is unpatentable using Ogasawara alone is unavailing because Ogasawara’s advanced recognition software is not a self-enabling disclosure.” Sur-Reply 1 (emphasis omitted). Thus, we turn to Petitioner’s contention that the combination of Ogasawara and Bolle teaches the subject limitation. *See Raytheon Techs. Corp. v. Gen. Elec. Co.*, 993 F.3d 1374, 1380 (Fed. Cir. 2021) (“In general, a prior art reference asserted under § 103 does not necessarily have to enable its own disclosure, i.e., be ‘self-enabling,’ to be relevant to the obviousness inquiry.”); *Symbol Techs., Inc. v. Opticon, Inc.*, 935 F.2d 1569, 1578 (Fed. Cir. 1991) (“While a reference must enable someone to practice the invention in order to anticipate under § 102(b), a non-enabling reference may qualify as prior art for the purpose of determining obviousness under § 103.”).

Petitioner contends Bolle, and more specifically, the combination of Ogasawara and Bolle, teaches this limitation by disclosing, for example, “a target database (e.g., database 270) storing known targets of different types (e.g., merchandise items) and recognition parameters (e.g., reference object characteristics) associated with the known targets.” Pet. 37 (citing Ex. 1006, 7:37–47); Ex. 1003 ¶ 74. Petitioner argues “Bolle’s system uses object recognition for known targets of ‘different types,’ including ‘produce (fruits and vegetable), hardware, boxed goods, etc.’” Pet. 37 (citing Ex. 1006, 7:37–47). Petitioner argues “Bolle stores these known targets of different types and associated parameters in a target database.” Pet. 37 (citing Ex. 1006, 6:3–6 (“stored reference images”), 8:20–37, 13:55 (“database 270”), 14:1–8 (“One or more reference object characteristics are stored 270 on a memory storage device” and preferably “use a series of area

normalized feature histograms that characterized object features . . . associated with [] a unique object type identifier.”), 14:38–45, 15:22–27.).

Petitioner contends the skilled artisan would have been motivated to combine the teachings of Ogasawara and Bolle to arrive at the invention of claim 1, including this limitation. Pet. 27–34. Petitioner argues the skilled artisan would have done so “to achieve a system that could more accurately discern the shape or other visual characteristics of a target in an image to be able to identify that target.” Pet. 27 (citing Ex. 1003 ¶ 92). Petitioner argues the skilled artisan would have recognized that “Bolle would predictably enhance the performance of the Ogasawara system,” and contends the teachings of the references themselves “provide [the skilled artisan] with a strong motivation to combine Ogasawara and Bolle.” Pet. 30 (citing Ex. 1003 ¶¶ 97–98). Petitioner argues “both references are in the same field and address the same issue in the same context—using image processing systems to identify products, such as produce, for purchase during shopping,” and “Bolle expressly describes the benefits of using its system with a system such as Ogasawara that does not segment the target from the background and thus cannot perceive the target’s distinct or identifiable shape or other visually identifiable characteristic.” Pet. 30 (citing Ex. 1003 ¶ 98).

Petitioner also contends the skilled artisan “would have had a reasonable expectation of success combining Bolle’s image segmentation and matching techniques with Ogasawara’s system.” Pet. 31. Petitioner argues the skilled artisan “would have combined Bolle’s image segmentation and matching techniques with Ogasawara’s system using the hardware and techniques already described in each reference, and each system would

perform the same in the combined system,” and “would have recognized that using Bolle’s image segmentation and matching techniques with Ogasawara’s system would be nothing more than combining prior art elements according to known methods to yield predictable results or the application of known techniques to improve a known device to yield predictable results.” Pet. 31–32 (citing Ex. 1003 ¶ 100); *see* Pet. 33–34 (“[The skilled artisan] would have thus recognized that Bolle’s algorithmic methods of image segmentation and matching are compatible with Ogasawara’s system.”).

Patent Owner asserts, relative to Ogasawara, Bolle is “from the entirely different field of agricultural produce recognition focused on providing constant illumination during an imaging process to facilitate separating a given preprogrammed object from its background to facilitate identification.” Prelim. Resp. 4. But Patent Owner provides no evidentiary support or explanation for this “entirely different field” allegation, which we find unavailing in view of Petitioner’s foregoing arguments (*see* Pet. 27–34). Patent Owner also contends “Petitioner has failed to establish a *prima facie* rationale to combine Ogasawara with Bolle.” Prelim. Resp. 49. Patent Owner argues:

Ogasawara states that its “[a]dvanced pattern recognition software” is “accomplished *within the wireless videophone*, by specialized downloaded software.” Ex. 1005 at 23:21-23 (emphasis added). None of the “hardware and techniques already described in” Bolle explains how [the skilled artisan] would have expected Bolle’s image segmentation and matching techniques to work on a wireless videophone available in the late-1990s. Bolle expressly states that the algorithm is performed on “[a] calculating device 140, *typically a computer 140*” or “one or more *digital signal processors*, either stand-alone or

installed in a computer,” such as “a Datatranslation DSP board DT 2878 coupled to a Datatranslation DT2871 frame grabber board residing in an IBM ValuePoint computer, or in the IBM 4690 series of POS Cash Registers.” Ex. 1006 at 7:49-62 (emphasis added). Petitioner never explains how [the skilled artisan] would expect Bolle’s algorithm which requires specialized hardware like a digital signal processor to work on Ogasawara’s wireless videophone. Indeed, a wireless videophone available in the late-1990s would have significantly less processing power than any of the hardware discussed in Bolle.

Prelim. Resp. 49–50. We find Patent Owner’s argument misplaced and unavailing.

In proving obviousness here, it is not necessary to show that the skilled artisan would have placed an entire IBM computer or IBM point-of-sale register within Ogasawara’s videophone. “The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. . . . Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art.” *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Patent Owner does not explain why, in a system combining *the teachings* of Ogasawara and Bolle as proposed by Petitioner (*see* Pet. 27–34), Ogasawara’s microprocessor 238 could not have been implemented by the skilled artisan using a digital signal processor as Bolle describes, such as the digital signal processor component of the IBM computer or IBM point-of-sale cash register. *See, e.g.*, Ex. 1005, Fig. 10 (Ogasawara teaching that videophone 218 includes microprocessor 238); Ex. 1006, 7:49–62 (Bolle teaching that “calculating device 140 can also be one or more digital signal processors, either stand-alone or installed in a computer”).

Accordingly, for the reasons stated in the Petition at pages 27–34 and 37, Petitioner sufficiently establishes that the combination of Ogasawara and Bolle teaches this limitation. We are persuaded that Petitioner’s cited evidence provides sufficient rational reasons for purposes of institution to combine Ogasawara and Bolle to arrive at this limitation, and, as further discussed below, the invention of claim 1. Except as noted above, Patent Owner does not contend otherwise at this stage of the proceeding.

(3) *“an identification platform coupled with the target database, and that:”*

Petitioner contends Ogasawara teaches this limitation by disclosing an identification platform (e.g., a computing platform on server 210 (e.g., personal shopping application)) coupled with the target database (e.g., database storing “visually identifiable characteristic[s]” discussed above for the “target database” limitation (*see* Section III.E.3.a.2, *supra*)). Pet. 38 (citing Ex. 1003 ¶¶ 107–112). Petitioner argues “Ogasawara teaches that ‘a visual image of the merchandise item is transmitted to a server, wherein pattern recognition software makes the requisite merchandise item identification,’” and “pattern recognition software on server 210 is coupled to the target database (e.g., look-up table or file or database 270).” Pet. 38 (citing, *inter alia*, Ex. 1005, 23:12–27, 18:46–52, 21:24–34, 6:41–49).

For the reasons stated in the Petition at pages 38–39, Petitioner sufficiently establishes that Ogasawara teaches this limitation. Patent Owner does not contend otherwise at this stage of the proceeding.

- (4) *“communicates with a mobile device capable of acquiring a digital representation of a scene containing at least a portion of a target; [and] receives the digital representation from the mobile device; and”*

Petitioner contends Ogasawara teaches this limitation by disclosing that an identification platform (e.g., a computing platform on server 210 (e.g., personal shopping application)) communicates with a mobile device (e.g., wireless videophone 218) capable of acquiring (e.g., with a digital camera 236) a digital representation of a scene containing at least a portion of a target (e.g., videographic image of an apple), and receives the digital representation from the mobile device (e.g., wireless videophone 218).

Pet. 39 (citing Ex. 1003 ¶¶ 113–114); *see* Fig. 10. Petitioner argues “[t]he wireless videophone 218 may capture an image (e.g., videographic image of an apple) with its camera 236 and transmit that image to server 210 for pattern recognition. Pet. 40 (citing Ex. 1005, 16:7–13, 19:52–65, 23:22–27).

For the reasons stated in the Petition at pages 39–40, Petitioner sufficiently establishes that Ogasawara teaches this limitation. Patent Owner does not contend otherwise at this stage of the proceeding.

- (5) *“recognizes the target as a known target from the target database based on comparing parameters derived from the digital representation to recognition parameters associated with the known targets; and”*

Our construction for the Recognizes Limitation, which agrees with and adopts the construction by the district court, is “recognizes the target as a known target from the target database based on comparing parameters

derived from the digital representation to recognition parameters associated with the known targets to find a match.” *See supra*, Section III.C.

Petitioner contends that Ogasawara meets the Recognizes Limitation.

Pet. 45. Petitioner argues:

[The skilled artisan] would understand that Ogasawara’s advanced pattern recognition software derives visually identifiable characteristics from the digital representation (akin to the numeric bar code data derived from a bar code image) and uses a look-up table or file (i.e., a target database storing recognition parameters associated with different types of known targets) to associate the visually identifiable characteristics to a corresponding product, including the item name.

Pet. 45 (citing Ex. 1003 ¶¶ 67, 117; Ex. 1005, 6:45–49, 14:23–28, 21:1–8, 21:17–34, 23:16–20). Patent Owner argues “Petitioner does not cite to anything in Ogasawara that discloses its barcode recognition software operates by matching parameters of the captured bar code with recognition parameters of other bar codes in a database.” Prelim. Resp. 40. Patent Owner also argues “Ogasawara’s disclosure of bar code recognition cannot simply be mapped to the very different process of recognizing ‘visually identifiable characteristics’ of *an object like an apple*.” *Id.* We find Patent Owner’s argument persuasive that Ogasawara *alone* does not teach the Recognizes Limitation. Based on the record before us, we are not persuaded that the skilled artisan would find Ogasawara’s brief reference to “[a]dvanced pattern recognition software” (Ex. 1005, 23:11–12) a sufficient disclosure of recognizing a target by comparing parameters derived from a digital representation to recognition parameters associated with known targets to find a match to meet the Recognizes Limitation as we have construed it.

Petitioner also contends “it is unnecessary for purposes of this Petition to determine whether Ogasawara discloses [the Recognizes Limitation], because Ogasawara in combination with Bolle expressly discloses this limitation under Petitioner’s construction.” Pet. 45–46 (citing Ex. 1003 ¶¶ 118–121). Petitioner contends Bolle, and more specifically, the combination of Ogasawara and Bolle, teaches this limitation by disclosing, for example, “matching recognition parameters derived from the digital representation of an apple to recognition parameters of reference images associated with the known targets stored in a database 270.” Pet. 46 (citing Ex. 1003 ¶ 118). Petitioner argues:

Bolle teaches comparing features (i.e., recognition parameters) of an object in an image to those of stored reference images in a database to find a match. *See* Ex.1006, 6:3–6 (“A processed image (that can be used to characterize features) of the object(s) is then compared to stored reference images. The object is recognized when a match occurs.”). Specifically, Bolle teaches “an algorithm” whereby “the object(s) image is novelly segmented from a background image of the scene by a comparison of the two digitized images taken.” *Id.*, 6:1–3. This “allows the object image 130 to be segmented (separated out) from the background image 311 of the scene.” *Id.*, 8:63–66. Then, the computer 140 performs a computation process “to determine features of the target object,” which are typically represented by a range of numerical values for properties such as “color, shape, texture, density of the segmented image of target object.” *Id.*, 2:27–41, 12:64–13:4. “If the target normalized histogram is matched with a reference normalized histogram in storage, the target image is recognized.” *Id.*, 16:43–45; *see also id.*, 2:27–41 (a histogram is a numerical representation of the distribution of feature values); 8:34–37 (comparing characterizations of the target object to those of reference objects stored in memory storage 270 to determine a match), 13:55 (“database 270”), 14:1–2. (“One or more reference object characteristics are stored 270 on a memory storage device.”).

Pet. 46–47. Also, as discussed above (*see* Section III.E.3.a.2), Petitioner argues the skilled artisan “would have had a reasonable expectation of success combining Bolle’s image segmentation and matching techniques with Ogasawara’s system.” Pet. 31; *see* Pet. 27–34, 47.

Although Patent Owner argues Petitioner has failed to establish a *prima facie* rationale to combine Ogasawara with Bolle, which we discuss above in Section III.E.3.a.2, Patent Owner does not otherwise directly address or meaningfully challenge Petitioner’s specific contentions as to the Recognizes Limitation outlined above.

Patent Owner also argues that the Petition should be rejected because it is based on Petitioner’s flawed claim construction of the Recognizes Limitation, which has been rejected by the court in the District Court Case. Prelim. Resp. 48. By agreeing with Petitioner that “matching” is required and that recognizing requires querying a database, the district court has adopted a construction that is essentially the same as Petitioner’s proposed construction, as we have as well in adopting the district court’s construction. Ex. 2006, 15–18, 22. Petitioner’s arguments and evidence are equally applicable to the claim construction determined by the district court, which we have adopted.⁵ In that regard, as noted above, Patent Owner states: “Patent Owner does not object to the Board adopting the District Court’s construction of the [Recognizes Limitation].” Prelim. Resp. 34.

Accordingly, for the reasons stated in the Petition at pages 27–34 and 45–47, Petitioner sufficiently establishes that the combination of Ogasawara

⁵ Patent Owner articulates no difference between the claimed term “recogniz[ing]” and Petitioner’s use of the word “identify[ing].” On this record, when an item has been identified, it is recognized.

and Bolle teaches this limitation. We remain persuaded that Petitioner's cited evidence provides sufficient rational reasons for purposes of institution to combine Ogasawara and Bolle to arrive at this limitation, and, as further discussed below, the invention of claim 1.

- (6) *“a content service coupled with the identification platform, and that: obtains content information related to the known target; and sends the content information to at least one of the identification platform and the mobile device”*

Petitioner contends the “content service” “‘is an information server and computing system’ that may be a separate component from the mobile device (connected ‘via standard Internet and wireless network software, protocols [], and networks’).” Pet. 48 (citing Ex. 1001, 21:25–22:15). Petitioner argues “Ogasawara discloses such a content service (e.g., server 210) coupled with the identification platform (e.g., a computing platform on the server 210 (e.g., personal shopping application)) that obtains content information related to the known target (e.g., item price) and sends the content information to at least one of the identification platform and the mobile device (e.g., wireless videophone 218).” Pet. 48 (citing Ex. 1003 ¶¶ 124–128); *see* Ex. 1005, Fig. 10; Ex. 1003 ¶ 127. Petitioner argues “[a]fter the wireless videophone 218 captures an image of a merchandise item, such as an apple, ‘a visual image of the merchandise item is transmitted to a server, wherein pattern recognition software makes the requisite merchandise item identification,’ and ‘[m]erchandise information is then returned to the customer for display by the wireless videophone.’” Pet. 49 (citing Ex. 1005, 23:22–32, 10:11–21, 18:38–52). Petitioner argues “Ogasawara explains that this merchandise information (i.e., content

information) may include information such as price of the item.” Pet. 49 (citing Ex. 1005, 21:24–35).

For the reasons stated in the Petition at pages 48–50, Petitioner sufficiently establishes that Ogasawara teaches this limitation. Patent Owner does not contend otherwise at this stage of the proceeding.

(7) *Conclusion*

At this stage of the proceeding and based on the record before us, we are persuaded that Petitioner’s cited evidence provides sufficient rational reasons for purposes of institution to combine Ogasawara and Bolle with a reasonable expectation of success, and sufficiently supports Petitioner’s contention that independent claim 1 is unpatentable as obvious over the combination of Ogasawara and Bolle.

To the extent that Patent Owner attempts to refute Petitioner’s obviousness showing based on allegedly different objectives or purposes of the systems of Ogasawara, Bolle, and the ’036 patent (*see, e.g.*, Prelim. Resp. 3–4), we are not persuaded. It is sufficient that the skilled artisan would have had a rational reason to combine Ogasawara and Bolle to arrive at the invention of claim 1, even if the particular purpose of the invention of claim 1 is different from that of the references. *See In re Heck*, 699 F.2d 1331, 1333 (Fed. Cir. 1983) (citing *In re Gershon*, 372 F.2d 535, 538–39 (CCPA 1967)); *In re Graf*, 343 F.2d 774, 777 (CCPA 1965) (“Obviousness is not to be determined on the basis of purpose alone.”). The prior art need not have the same or similar utility as the patented invention. *In re Dillon*, 919 F.2d 688, 692–93 (Fed. Cir. 1990) (en banc) (overruling *In re Wright*, 848 F.2d 1216 (Fed. Cir. 1988)).

Patent Owner also mentions “glaring hindsight bias” in the Preliminary Response, but without meaningful analysis. *See* Prelim. Resp. 4; *In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971) (“Any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made and does not include knowledge gleaned only from applicant’s disclosure, such a reconstruction is proper.”).

Accordingly, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing that independent claim 1 is unpatentable as obvious over the combination of Ogasawara and Bolle.

b) Dependent Claims 10, 12, 13, and 15

Petitioner contends claims 10, 12, 13, and 15, which depend directly or indirectly from independent claim 1, would have been unpatentable as obvious over the combination of Ogasawara and Bolle. Pet. 50–57. The Petition provides a detailed assessment of these claims, with references to the Petition’s analysis of claim 1, disclosures in Ogasawara and Bolle, and the declaration testimony of Dr. Rodriguez. Pet. 50–57. At this stage of the proceeding, Patent Owner does not present any separate arguments that are distinct to any of these claims. Rather, Patent Owner generally states the view that the alleged deficiencies in the Petition with respect to claim 1 are also applicable to all Challenged Claims. *See generally* Prelim. Resp. 1–4, 31–50. As discussed above, we are persuaded that the cited evidence sufficiently supports Petitioner’s contention that independent claim 1 is unpatentable as obvious over the combination of Ogasawara and Bolle. For

the reasons set forth in the Petition (Pet. 50–57), we also are persuaded that the current record sufficiently supports Petitioner’s challenges to dependent claims 10, 12, 13, and 15 for purposes of institution.

c) Summary

For the foregoing reasons, and the reasons stated in the Petition (Pet. 27–57), we determine that Petitioner demonstrates a reasonable likelihood of success in establishing the unpatentability of claims 1, 10, 12, 13, and 15 as obvious over the combination of Ogasawara and Bolle.

IV. CONCLUSION

Based on the evidence before us, we determine that Petitioner has established a reasonable likelihood that claims 1, 10, 12, 13, and 15 of the ’036 patent are unpatentable. Accordingly, we institute trial on all the challenges in the Petition.

At this stage of the proceeding, the Board has not made a final determination on the construction of any claim term or the patentability of any challenged claim.

V. ORDER

Upon consideration of the record before us, it is:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1, 10, 12, 13, and 15 of the ’036 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the ’036 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

IPR2021-01304
Patent 8,478,036 B2

FOR PETITIONER:

Dustin J. Edwards
Michael A. Tomasulo
WINSTON & STRAWN LLP
dedwares@winston.com
mtomasulo@winston.com

FOR PATENT OWNER:

James Glass
Todd Briggs
QUINN EMANUEL URQUHART & SULLIVAN, LLP
jimglass@quinnemanuel.com
toddbriggs@quinnemanuel.com