

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NAUTILUS HYOSUNG INC.,
Petitioner,

v.

DIEBOLD, INC.,
Patent Owner.

Case IPR2016-00633
Patent 7,832,631 B2

Before BARBARA A. BENOIT, GEORGIANNA W. BRADEN, and
KERRY BEGLEY, *Administrative Patent Judges*.

BENOIT, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Nautilus Hyosung Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) seeking *inter partes* review of claims 1–8 and 12–20 of U.S. Patent No. 7,832,631 B2 (Ex. 1001, “the ’631 patent” or “the challenged patent”). Patent Owner, Diebold, Inc., filed a Preliminary Response to the Petition (Paper 6, “Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 314(a), which provides that *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

Upon consideration of the Petition and the Preliminary Response, we conclude the information presented does not show there is a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of at least one of the challenged claims of the challenged patent. Accordingly, for the reasons that follow, we deny institution of an *inter partes* review.

A. *Related Proceedings*

As required by 37 C.F.R. § 42.8(b)(2), each party identifies various judicial or administrative matters that would affect or be affected by a decision in this proceeding. Pet. 1; Paper 5 (Patent Owner’s Mandatory Notices). Petitioner and Patent Owner represent that the challenged patent is involved in an United States district court proceeding—*Diebold, Inc. v. Nautilus Hyosung Inc.*, No. 1:15-cv-2153 (N.D. Ohio)—and an International Trade Commission Investigation—*In the Matter of Certain Automated Teller*

Machines, ATM Modules, Components Thereof, and Products Containing Same, No. 337-TA-972.

B. The Challenged Patent

The challenged patent claims methods for sensing magnetic ink character recognition (“micr” or “MICR”) lines on financial checks, generally in the context of an automated banking machine. Ex. 1001, 41:24–44, 43:10–13. A micr line identifies the institution upon which the check is drawn, the bank account number, and the check number associated with a particular financial check. See Ex. 2001, 2:24–32.

Figure 43 of the challenged patent is reproduced below.

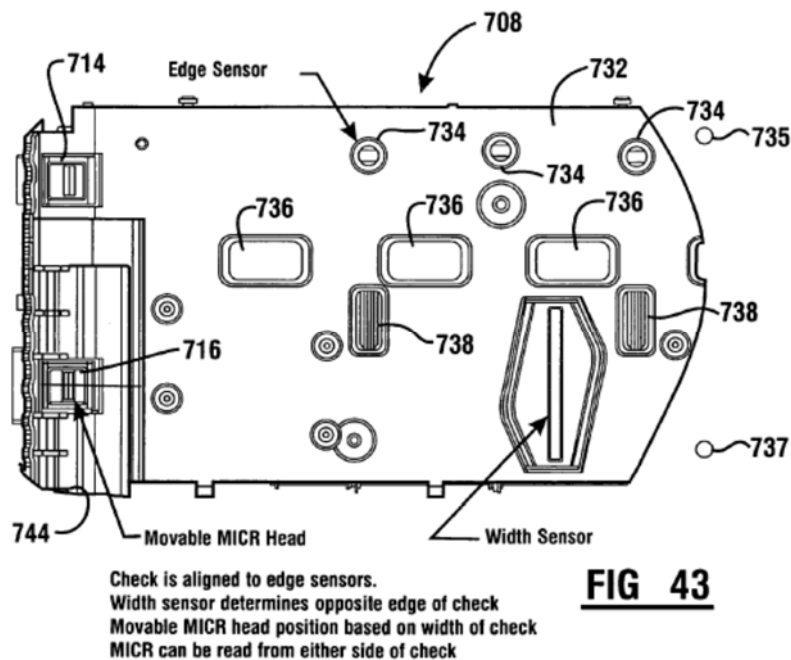


Figure 43 shows document alignment area 708 including platen 732, which includes alignment sensors 734.¹ Ex. 1001, 30:51–54. Rollers 736 generally move a financial check until it is aligned based on alignment sensors 734. *Id.* at 30:58–31:9. Magnetic read head 714 is in a fixed position that is generally positioned “so that a check that has been aligned in the document alignment area will generally have the micr line indicia on the check pass adjacent to the magnetic read head 714.” *Id.* at 31:17–24. “This is true for two of the four possible facing positions of a check as it passes through the device” and is illustrated in Figure 44, reproduced below. *Id.* at 31:24–27.

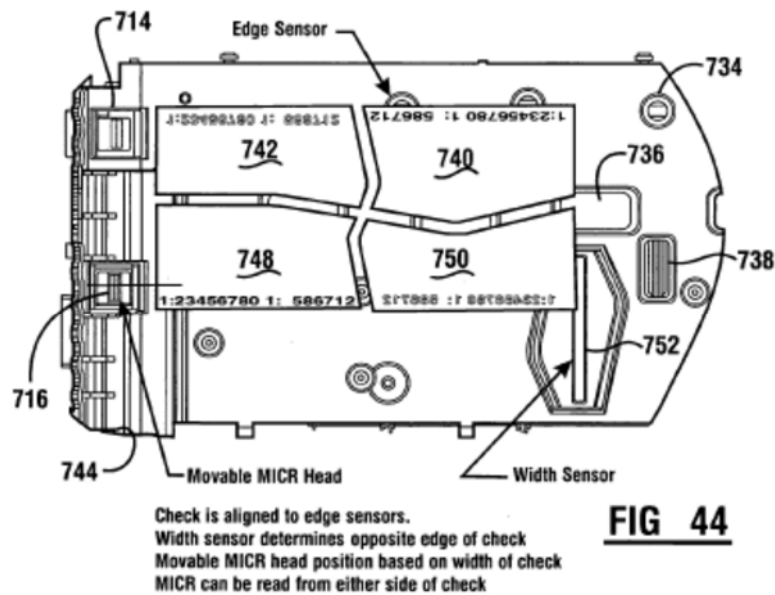


Figure 44 shows a view similar to Figure 43 but also includes “portions of a check therein showing the location of the indicia included in the micr line in the four possible orientations of a check in the document assignment

¹ As indicated in Figure 43 itself, alignment sensors 734 also may be referred to as edge sensors. Ex. 1001, Fig. 43.

area” 708. *Id.* at 7:18–23. Figure 44 depicts exemplary check segments 740 and 742 for which the micr line indicia pass adjacent to magnetic read head 714.

In contrast to magnetic read head 714, magnetic read head 716 is movable transversely to the path of a check as it moves through the device. *Id.* at 31:28–33. As shown in Figure 44, “when a check is in the two orientations where the micr line data would not pass adjacent to [magnetic] read head 714” (and as represented by exemplary check segments 748 and 750), movable magnetic read head 716 is positioned “so that the micr line data [of the check] would pass adjacent to [magnetic] read head 716.” *Id.* at 31:38–43.

Magnetic read heads 714 and 716 “are operative to read the micr indicia regardless of whether the indicia is on the check immediately adjacent to the [magnetic] read head or on an opposed side of the check from the [magnetic] read head.” *Id.* at 32:5–9. “This is because the magnetic characters can be sensed through the paper.” *Id.* at 32:9–10.

An exemplary embodiment of document alignment area 708, shown in Figure 44, includes width sensor 752 (which is also shown in Figure 43) “operative to sense at least one dimension or property which corresponds to a width associated with a check.” *Id.* at 31:44–50. Determining the width of the aligned check enables magnetic read head 716 to be moved to the appropriate “position for reading the micr line indicia on the check in the event that the check is in one of the two positions wherein the micr indicia is

disposed on the opposite of the check from [magnetic] read head 714.” *Id.* at 31:52–59.

C. Illustrative Claim

Of the challenged claims, claims 1, 17, and 18 are independent.

Claim 1 is illustrative of the claimed subject matter:

1. A method of sensing magnetic indicia on at least one financial check, comprising:

(a) receiving at least one check in an automated banking machine, wherein the at least one check includes a check comprising magnetic indicia encoded in a micr line thereon;

(b) sensing through operation of at least one sensor in the machine, a width associated with the check, wherein the at least one sensor is in operative connection with at least one processor in the machine;

(c) moving responsive at least in part to the width sensed in (b), at least one of two magnetic read heads in the machine, wherein the at least one magnetic read head is moved responsive at least in part to operation of the at least one processor, wherein the at least one magnetic read head is moved such that the micr line on the check is aligned with one of the magnetic read heads regardless of a facing position of the check;

(d) moving the check past the two magnetic read heads in the machine responsive at least in part to operation of the at least one processor;

(e) sensing micr line data on the check with one of the two magnetic read heads.

Ex. 1001, 41:24–46.

D. The Asserted Ground of Unpatentability

Petitioner contends that claims 1–8 and 12–20 of the '631 patent are unpatentable under 35 U.S.C. § 103 over Graef,² Kawai,³ and Mennie⁴ (Pet. 3, 7–46).

II. DISCUSSION

A. Claim Construction

In an *inter partes* review, the Board interprets claims in an unexpired patent using the “broadest reasonable construction in light of the specification of the patent in which [they] appear[.]” 37 C.F.R. § 42.100(b); *see Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144 (2016) (holding that 37 C.F.R. § 42.100(b) “represents a reasonable exercise of the rulemaking authority that Congress delegated to the Patent Office”). Under that standard, claim terms are presumed to be given their ordinary and customary meaning, which “is the meaning that the term would have to a person of ordinary skill in the art in question” at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). To rebut this presumption by acting as a lexicographer, the patentee must give the term a particular meaning in the specification with “reasonable clarity, deliberateness, and precision.” *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). In addition,

² U.S. Patent No. 5,534,682, issued July 9, 1996 (Ex. 1005, “Graef”).

³ U.S. Patent Application Publication US 2006/0196940 A1, published Sept. 7, 2006 (Ex. 1006, “Kawai”).

⁴ U.S. Patent No. 5,875,259, issued Feb. 23, 1999 (Ex. 1007, “Mennie”).

the Board may not “construe claims during [an *inter partes* review] so broadly that its constructions are unreasonable under general claim construction principles.” *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015).

We construe the challenged claims according to these principles. Furthermore, we determine that no terms require express construction for this decision.

B. Asserted Ground of Obviousness

Petitioner contends that claims 1–8 and 12–20 of the challenged patent are unpatentable under 35 U.S.C. § 103 as obvious over the combination of Graef, Kawai, and Mennie and “the knowledge of a [person of ordinary skill in the art].” Pet. 9; *see id.* at 8–46. Petitioner supports its contentions with citations to the references and with declaration testimony of Roger E. Kaufman, Ph.D. (Ex. 1003). *Id.* at 8–46. Patent Owner opposes. Prelim. Resp. 11–44.

A claim is unpatentable under 35 U.S.C. § 103(a)⁵ 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. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406

⁵ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), revised 35 U.S.C. § 103, effective March 16, 2013. Because the challenged patent was filed before March 16, 2013, we refer to the pre-AIA version of § 103 in this decision.

(2007) (quoting 35 U.S.C. § 103(a)). 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) objective evidence of nonobviousness, i.e., secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

“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). Furthermore, Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, No. 2015-1300, 2016 WL 3974202, at *10 (Fed. Cir. July 25, 2016).

Thus, to prevail in an *inter partes* review, Petitioner must explain how the combination of Graef, Kawai, and Mennie would have rendered the challenged claims unpatentable. At this preliminary stage, we determine whether the information presented in the Petition shows there is a reasonable

likelihood that Petitioner would prevail in establishing that one of the challenged claims would have been obvious over Graef, Kawai, and Mennie.

For the reasons that follow, we determine that Petition does not show the requisite reasonable likelihood.

1. Level of Ordinary Skill

As an initial matter in determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham*, 383 U.S. at 17. “The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991).

Petitioner’s declarant, Dr. Kaufman, opines that one of ordinary skill in the art relevant to the challenged patent at the time of the claimed invention “would have had a bachelor’s degree in mechanical engineering, computer science, computer engineering, electrical engineering, or a closely related field, along with at least 2 years of industry experience in engineering electromechanical devices” and further opines that “[s]uperior education or work experience would compensate for a deficiency in the other.” Ex. 1003 ¶ 11; *see id.* at ¶ 12 (describing how Dr. Kaufman arrived at his opinion regarding one of ordinary skill in the art); Pet. 4 (citing Ex. 1003 ¶ 11). Patent Owner does not offer any contrary explanation regarding who would qualify as a person of ordinary skill in the art relevant to the challenged patent. *See generally* Prelim. Resp.

Based on our review of the challenged patent, the types of problems and solutions described in the challenged patent and cited prior art, and the testimony of Dr. Kaufman, we adopt and apply Petitioner’s definition of a person of ordinary skill in the art at the time of the claimed invention. We note that the applied prior art reflects the appropriate level of skill at the time of the claimed invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

2. Summary of Graef

Graef is a United States patent that describes a document processing system for “receiving, processing, and sorting envelopes and single document deposits.” Ex. 1005, Abstract, 1:9–12. Graef’s system is “particularly suitable for an unmanned operation of accepting a deposit or receiving payments into a bank . . . in conjunction with conventionally known automatic teller machines (ATM).” *Id.* at 1:12–16. According to Graef, ATMs are widely used by banks to provide unmanned cash dispensing to customers but are not generally used for depositing money into a bank. *Id.* at 1:24–37. Graef’s document processing system purportedly overcomes problems associated with depositing money using an ATM by providing an apparatus for receiving both envelopes and single document deposits, such as checks. *Id.* at 1:37–40, 5:60–63.

According to Graef, commercial checks typically include information set forth as a bar code printed in magnetized ink. *Id.* at 20:8–11. Such information typically would include: (1) institutional information regarding the institution issuing the check, (2) an account number, and (3) a check

number. *Id.* at 20:11–16. Graef describes “a MICR shuttle” that reads the magnetized information on a check (or other type of document deposit). *Id.* at 20:4–8. Because such “coded information is typically provided at specific locations on a certain type of document,” to read magnetized information, Graef’s system positions its MICR shuttle in a location where the coded information would be expected to be found. *Id.* at 20:31–36. “In the event that the coded information is not found where expected, [Graef’s system] is programmed to reposition the MICR head to search the document for the coded information.” *Id.* at 20:36–44.

Graef’s document processing system uses optical sensors to distinguish the type of deposit received—whether the deposit is an “envelope deposit” (which Graef refers to as “envelope deposit ED”) or is a “single document deposit” (which Graef refers to as “document deposit DD”). *Id.* at 16:61–65. The sensors “are capable of providing . . . information as to the length, width, and opacity (which provides an indication of thickness) of the [received] deposit.” *Id.* at 17:1–6. This information enables Graef’s system to identify whether a deposit is an envelope or a single document. *Id.* at 17:1–9. For example, when a single document deposit (such as a check) is received, the deposit is identified as a single document deposit “by means of the optical sensors” scanning the deposit “as to its thickness, i.e., its opacity.” *Id.* at 18:9–19.

3. *Summary of Kawai*

Kawai is a United States patent application publication that describes “a MICR reading mechanism.” Ex. 1006 ¶ 1. According to Kawai’s

Abstract, a “MICR reading head is operable to read an MICR character printed on a medium fed in a first direction.” *Id.* at Abstract. “A sensor is operable to detect an end portion in a second direction perpendicular to the first direction of the medium.” *Id.* “The MICR reading head is movable to a predetermined position at a predetermined distance from the end portion detected by the sensor.” *Id.*

Kawai indicates standards determine the position on the paper where MICR characters are to be printed. *Id.* ¶ 2. The “reference is the distance from an end portion of the printed paper in a direction (width direction) perpendicular to a feeding direction in which the paper [is] fed.” *Id.*

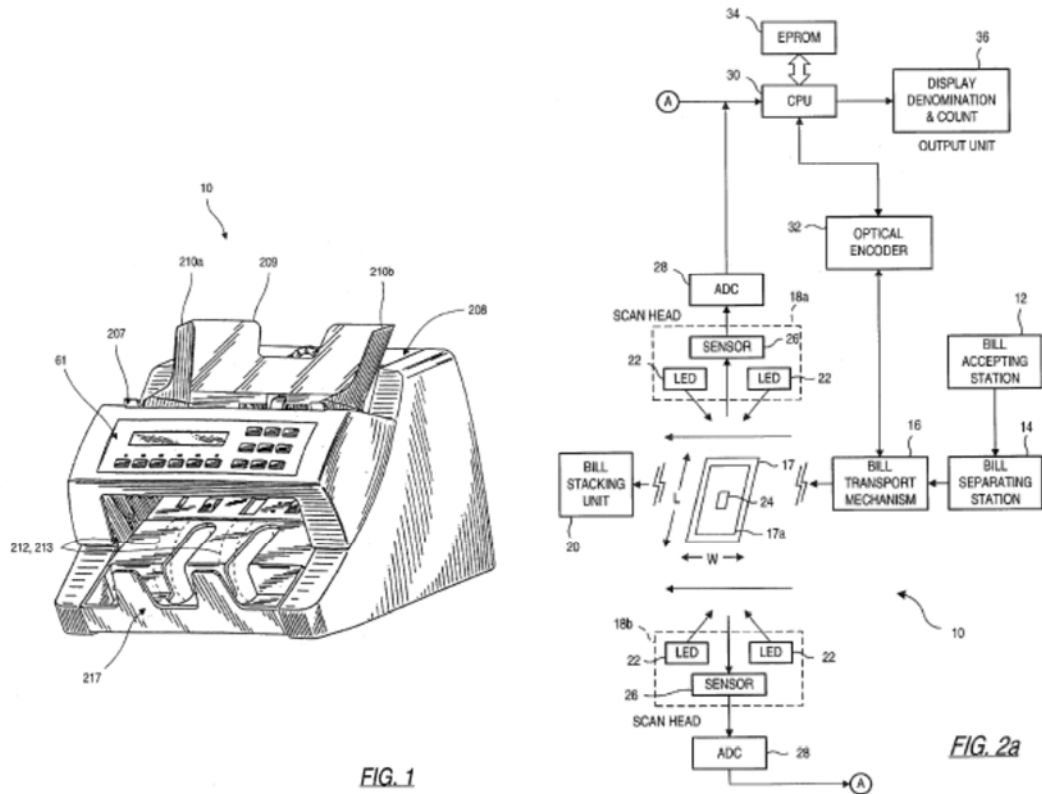
Kawai describes “a method of reading an MICR character printed on a medium fed in a first direction by a[] MICR reading head.” *Id.* ¶ 25. The method includes “detecting an end portion in a second direction perpendicular to the first direction of the medium.” *Id.* ¶ 26. The method also includes “moving the MICR reading head to a predetermined position at a predetermined distance from the detected end portion.” *Id.* ¶ 27.

4. Summary of Mennie

Mennie is a United States patent that describes a “currency identification system for identifying currency bills of different denominations of a plurality of currency systems.” Ex. 1007, Abstract. According to Mennie, currency discrimination systems “typically employ either magnetic sensing or optical sensing for discriminating among different currency denominations.” *Id.* at 2:22–24. Although magnetic sensing “based on detecting the presence or absence of magnetic ink in portions of the printed

indicia on the currency” can be used, Mennie indicates optical sensing techniques are used more commonly. *Id.* at 2:25–30, 2:40–56.

Mennie’s Figures 1 and 2 are reproduced below.



Mennie’s Figure 1 shows a currency scanning and counting machine, and Figure 2 shows a functional block diagram of the currency scanning and counting machine of Figure 1. *Id.* at 13:42–46. Among other elements, Figure 2 depicts “a precisely predetermined transport path, between a pair of scanheads 18a, 18b, where the currency denomination of the bill is scanned and identified.” *Id.* at 17:6–8. “In the preferred embodiment depicted [in Figure 2], each scanhead 18a, 18b is an optical scanhead that scans for characteristic information from a scanned bill 17 which is used to identify the denomination of the bill.” *Id.* at 17:8–11. Mennie further explains that,

“[w]hile scanheads 18a, 18b are optical scanheads,” “the scanhead may employ a variety of detection means such as magnetic, optical, electrical conductivity, and capacitive sensors.” *Id.* at 17:25–30.

5. Analysis of Independent Claim 1 and Dependent Claims 2–8 and 12–16

Independent claim 1 recites a five-step method of “sensing magnetic indicia” on a conventional, paper financial check. Ex. 1001, 41:24–46. The recited method involves the operation of an automated banking machine with two magnetic heads and a sensor. Claim 1 requires using the sensor to sense a width associated with a financial check received by the automated banking machine. A key aspect of claim 1 as a whole is moving one of two magnetic read heads in the automated banking machine in response to the sensed width of the financial check such that the micr line of the financial check is aligned with one of the two magnetic read heads, regardless of the facing position of the check. *See id.* at 41:30–41 (claim 1, steps (b) and (c)). Another key aspect of claim 1 is moving the check past two magnetic read heads (one of which is the aligned magnetic read head) and sensing the micr line data with one of the two magnetic read heads, regardless of the facing position of the check. *See id.* at 41:38–46 (claim 1, steps (c), (d) and (e)).

a. Petitioner’s Contentions Regarding Independent Claim 1

Petitioner contends that the combination of Graef, Kawai, and Mennie and the knowledge of one of ordinary skill in the art would have rendered independent claim 1 obvious. Pet. 8–21 (regarding claim 1). Petitioner relies on Graef’s document processing system with a single magnetic read head. *See, e.g., id.* at 8 (summarizing Graef). More specifically, Petitioner relies on

Graef's document processing system that (1) senses the size and position of items received from a user of a banking machine to distinguish an envelope from a check (i.e., Graef's "document deposit") and (2) aligns a movable magnetic read head with a micr line based on a location where the micr line would be expected to be located on the check. *See, e.g., id.* at 8 (summarizing Graef), 9–12 (relying on Graef alone for preamble, step (a), step (b)), 12–21 (relying on Graef for many aspects of the limitations required by steps (c)–(e)).

Apparently recognizing that Graef does not expressly teach moving the micr head based on the width of a check, Petitioner relies on the combination of Graef and Kawai for that limitation.⁶ *Id.* at 13 (citing Ex. 1003 ¶¶ 44–48) ("To the extent that Graef does not explicitly teach moving the micr head based on the width of the check, it would have been obvious to combine the teachings of Graef with Kawai."). Also, apparently recognizing that Graef does not expressly teach two magnetic read heads in an automated banking

⁶ Petitioner nominally conditions its reliance on Kawai as "[t]o the extent that Graef does not explicitly teach moving the micr head based on the width of the check." Pet. 13. Petitioner, however, merely cites a few disparate portions of Graef without explaining how the cited portions of Graef would have conveyed to one of ordinary skill in the art at the time of the invention "moving responsive . . . to the width sensed in [step] (b)," as recited by claim 1. *Id.* (citing Ex. 1005, 13:49–61, 12:25–31, 20:33–36, 20:33–44, Fig. 25). Thus, to the extent Petitioner relies on Graef alone for this limitation, we determine the Petition does not demonstrate a reasonable likelihood of success in doing so.

machine, Petitioner relies on Mennie as disclosing that limitation.⁷ *Id.* at 14 (citing Ex. 1007, 55:11–13) (“To the extent that Graef does not explicitly teach two separate magnetic read heads, Mennie discloses this limitation.”); *see also id.* at 19 (asserting same); *id.* at 20 (asserting same). Furthermore, apparently as an alternative to relying on Mennie, Petitioner also asserts that “it would have been obvious to one of ordinary skill in the art that a second magnetic shuttle could be added to Graef’s system.” *Id.* at 15 (citing Ex. 1003 ¶ 52); *see also id.* at 18–19 (asserting same); *id.* at 21 (asserting same).

*b. Petitioner’s Reliance on Mennie for
Two Magnetic Read Heads*

We first turn to Petitioner’s reliance on Mennie. According to Petitioner, “Mennie teaches two magnetic read heads in the machine. Mennie describes ‘a hybrid system having both stationary and moveable scanheads.’ Ex. 1007 at 55:11–13.” Pet. 14; *see id.* at 19 (“Mennie teaches the movement of at least one of two magnetic read heads by disclosing ‘a hybrid system having both stationary and moveable scanheads.’ Ex. 1007 at 55:11–13.”).

⁷ Petitioner nominally conditions its reliance on Mennie as “[t]o the extent that Graef does not explicitly teach two separate magnetic heads.” Petitioner, however, does not cite any portion of Graef for this limitation. Thus, we do not understand Petitioner to be relying on Graef alone for this limitation. To the extent, however, that Petitioner intends to rely on Graef alone for this limitation, we determine the Petition does not demonstrate a reasonable likelihood of success in doing so.

The portion of Mennie’s disclosure relied on by Petitioner, however, does not specify two *magnetic* read heads, as Petitioner contends. See Ex. 1007, 55:11–13 (describing two “scanheads”). Rather, the relied-upon portion only describes “scanheads” without specifying *magnetic* scanheads.

This shortcoming of the Petition is amplified by Mennie’s description of both magnetic sensing and optical sensing. For example, in discussing the technical background of its invention, Mennie indicates that “[c]urrency discrimination systems typically employ either magnetic sensing or optical sensing for discriminating among different currency denominations.” *Id.* at 2:22–24. Furthermore, Mennie indicates that, although magnetic sensing “based on detecting the presence or absence of magnetic ink in portions of the printed indicia on the currency” can be used, optical sensing techniques are used more commonly. *Id.* at 2:25–30, 2:40–56. In another example, Mennie describes scanheads 18a, 18b of Figure 2 as being *optical* scanheads but notes that the scanheads “may employ a variety of detection means such as magnetic, optical” and other types of sensors. *Id.* at 17:15, 17:25–30.

Petitioner does not explain sufficiency how one of ordinary skill in the art would have understood Mennie’s description of “a hybrid system having both stationary and moveable scanheads” to refer to a hybrid system of magnetic scanheads. Nor does Petitioner explain sufficiency why one of ordinary skill in the art would have selected Mennie’s magnetic scanheads (rather than selecting Mennie’s optical scanheads) when combining Mennie with Graef in the manner required by claim 1. Indeed, the lack of such an explanation suggests that Petitioner may have used the claimed subject matter

as a roadmap to identify individual pieces of the claimed subject matter in the prior art. *Cf. KSR*, 550 U.S. at 421 (admonishing that “[a] factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning”).

Furthermore, in Petitioner’s description of Mennie’s disclosure, Petitioner indicates Mennie’s scanheads retrieve “optical reflectance information” from the document, which seems to suggest Petitioner’s reliance on optical scanheads. *See* Pet. 8 (stating that “Mennie utilizes ‘two or more laterally displaced scanheads’ (Ex. 1007 at 4:31–35), to retrieve optical reflectance information from the document. Ex. 1007 at 4:47–52.”). This further undermines Petitioner’s reliance on Mennie for two magnetic read heads as required by claim 1.

For these reasons, we do not agree with Petitioner’s conclusion that the cited portion of Mennie on which Petitioner relies teaches two *magnetic* read heads in its currency reading machine. *See* Pet. 14, 19. Petitioner’s conclusory statement asserting that the cited portion of Mennie teaches magnetic scanheads is not supported adequately by the cited portion of Mennie itself and is not supported sufficiently by further analysis or evidence in the Petition. Thus, Petitioner does not satisfy its burden of proving obviousness based on Mennie regarding the required two magnetic read heads. *See Magnum Oil*, 2016 WL 3974202, at *10 (“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements.”). Moreover, although we recognize Mennie’s teachings concerning magnetic sensors, we are not “free to adopt arguments on behalf

of petitioners that could have been, but were not, raised by the petitioner during an [*inter partes* review].” *Id.* at 26.

In its broad assertion that “[t]o the extent that Graef does not explicitly teach two separate magnetic read heads, Mennie discloses this limitation,” Petitioner cites to four paragraphs comprising three pages of Dr. Kaufman’s testimony. Pet. 14 (Ex. 1003 ¶¶ 49–52). Petitioner, however, does not quote, paraphrase, summarize, or otherwise present Dr. Kaufman’s testimony. *See* Pet. 14. Leaving aside the issue of whether this amounts to improper incorporation by reference,⁸ Dr. Kaufman’s cited testimony does not support sufficiently Petitioner’s assertion that the cited portion of column 55 of Mennie discloses two *magnetic* scanheads.

Moreover, here, in merely citing several paragraphs of Dr. Kaufman’s testimony, Petitioner fails to explain the relevance of the cited paragraphs. Thus, Petitioner fails to identify with particularity supporting evidence as required. *See* 37 C.F.R. § 104(b) (requiring a petition to identify for each claim challenged “(5) [t]he exhibit number of the supporting evidence relied upon to support the challenge and the relevance of the evidence to the challenge raised, including identifying specific portions of the evidence that support the challenge” and explaining that “[t]he Board may exclude or give

⁸ 37 C.F.R. § 42.6(a)(3) (“Arguments must not be incorporated by reference from one document into another document.”); *Cisco Sys., Inc. v. C-Cation Techs., LLC*, Case IPR2014-00454 (PTAB Aug. 29, 2014) (Paper 12, 9) (Informative) (indicating the practice of citing a declaration to support conclusory statements that are not otherwise supported in the petition is incorporation by reference).

no weight to the evidence where a party has failed to state its relevance or to identify specific portions of the evidence that support the challenge.”); *Harmonic*, 815 F.3d at 1363 (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”)).

For these reasons, Petitioner’s contentions in the Petition do not explain adequately how the combination of Graef, Kawai, and Mennie would have conveyed to one of ordinary skill in the art using two magnetic read heads, as required in claim 1.

c. Petitioner’s Assertion that a Second Magnetic Read Head Could Be Added to Graef’s System

Not relying only on its assertions regarding Mennie’s scanheads, Petitioner also asserts that “it would have been obvious to one of ordinary skill in the art that a second magnetic shuttle *could* be added to Graef’s system” to satisfy the requirement of two magnetic read heads being in the automated bank machine” and for the requirement of “moving the check past two magnetic read heads.” Pet. 15, 18–19. Petitioner’s contention is not persuasive. An assertion that something *could* be done does not articulate a reason why something *would* be done by one of ordinary skill in the art at the time of the invention and, therefore, raises a specter of impermissible hindsight bias in an obviousness analysis. *Cf. InTouch Techs., Inc. v. VGO Commc’ns, Inc.*, 751 F.3d 1327, 1352 (Fed. Cir. 2014) (indicating testimony primarily consisting of conclusory assertions that one of ordinary skill in the

art *could* combine references, not that one of ordinary skill in the art *would* have been motivated to do so, reveals hindsight bias).

In support of the purported obviousness of including two magnetic read heads, Petitioner cites to Dr. Kaufman’s testimony asserting an advantage of having a second head in Graef’s system. Pet. 15 (citing Ex. 1003 ¶ 52) (“An advantage to Graef’s system of having a second head is that the MICR line scanning speed would be greatly enhanced through the use of a second head. Ex. 1003 at ¶ 52.”); *id.* at 18–19 (Ex. 1003 ¶ 52). Dr. Kaufman’s testimony elaborates on Petitioner’s statement regarding a purported advantage of including a second head in Graef’s system and contends the advantage would have motivated one of ordinary skill in the art “to make such an improvement.” Ex. 1003 ¶ 52. Dr. Kaufman’s cited testimony, while presenting his opinion, does not present evidence or otherwise provide sufficient factual corroboration to support his explanation, and we discount his testimony accordingly. *In re Am. Acad. of Sci. Tech Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004) (“[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations.”).

Thus, on balance, Petitioner’s contention that one of ordinary skill in the art could have included a second magnetic read head in Graef’s system and an advantage of doing so (Pet. 15, 18–19) does not establish a reasonable likelihood that Graef and Kawai would have conveyed using a second magnetic read head in the manner required by claim 1.

*d. Petitioner's Reliance on Graef and Kawai for
Moving a Magnetic Read Head*

Petitioner relies on the combination of Graef and Kawai for teaching moving the micr head based on the width of a check. Pet. 12 (citing Ex. 1005, 13:49–61, 12:25–31, 20:33–36, 20:33–44, Fig. 25). For “moving responsive at least in part to the width sensed in [step] (b),” Petitioner cites a few disparate portions of Graef and then asserts “[t]o the extent that Graef does not explicitly teach moving the micr head based on the width of the check, it would have been obvious to combine the teachings of Graef with Kawai. Ex. 1003 at ¶¶ 44–48.” *Id.* at 13.

i. Petitioner's Reliance on Graef's Disclosure

Because Petitioner conditions, at least nominally, its reliance on Kawai, we turn first to Petitioner's contentions relying on disparate portions of Graef. For sensing a width associated with the financial check received by the automated banking machine required by claim 1, Petitioner relies on Graef's teaching optical sensors capable of sensing physical characteristics of a financial check, including a width. Pet. 10 (citing Ex. 1005, 16:65–17:9, 26:7–9). Petitioner further relies on Graef teaching a central processing unit (“CPU”) that (i) receives measurements of width, length, and thickness of a financial check and (ii) sends commands to stepping motors responsible for movement of the micr shuttle. *Id.* at 12 (citing Ex. 1005, 13:46–61, 12:25–31, Fig. 25). Petitioner also relies on Graef teaching that the CPU positions the micr read head to a location where “coded information” would be expected to be found and, in the event coded information is not found,

“relocating the micr [read head] to a position wherein the coded information might be found.” *Id.* (citing Ex. 1005, 20:33–44).

Although Petitioner describes these teachings of Graef, Petitioner stops short of asserting that Graef alone teaches moving a magnetic read head responsive to a sensed width of a financial check. *See id.* at 12–13. To the extent that Petitioner intended to assert Graef alone teaches the requisite moving, we determine that the Petition does not show a reasonable likelihood of success in doing so. First, Petitioner does not rely on expert testimony to support that Graef alone teaches the requisite moving. *See* Pet. 12 (citing Graef but not Dr. Kaufman’s testimony). Second, the cited portions of Graef do not make a sufficient connection between (i) sensing the width of a received item to distinguish the type of item received—an envelope deposit from a single document deposit (*see* Ex. 1005, 16:61–17:9, 18:9–19) and (ii) moving its single micr shuttle to a location where the micr line is expected based on typical locations in various types of documents (*see* Ex. 1005, 20:31–44). Merely indicating that Graef’s CPU both receives a width measurement of the physical check and positions the MICR shuttle to read the micr line is insufficient. For example, Petitioner has not identified a portion of Graef that describes using the width measurement to position the MICR shuttle. *See generally* Pet. 12.

Moreover, Petitioner does not acknowledge, much less explain persuasively, Graef’s description of positioning its MICR shuttle in a location where the coded information would be expected to be found because “coded information [in the micr line] is typically provided at specific locations on a

certain type of document.” Thus, Graef’s discussion of where to position the MICR shuttle, on its face, appears to be based on the type of document, rather than the width of the document. Ex. 1005, 20:31–44.

ii. Kawai’s Paragraphs 2 and 25–27

Perhaps recognizing the shortcoming of Graef, Petitioner next turns to the disclosure of Kawai. *See generally* Pet. 12–13. Petitioner’s combination of Graef and Kawai depends on Kawai’s disclosure of (i) the known location of micr characters based on standards and (2) three paragraphs that, according to Petitioner, “teach[] detecting the width of the check and moving the micr read head based on the width in order to read encoded micr data from documents.” *Id.* at 13 (citing Ex. 1006 ¶¶ 2, 25–27).

More specifically, Petitioner first quotes Kawai teaching that standards govern the position of micr characters on a check and the “location of micr characters may be determined by referencing ‘the distance from the end portion of the printed paper in a direction (width direction).’” *Id.* at 13 (citing Ex. 1006 ¶ 2). Petitioner apparently recognizes, as do we, that paragraph two of Kawai teaches micr characters are located based on the distance from the end portion of a check in the width direction. Ex. 1006 ¶ 2; *see* Pet. 13.

Immediately following Petitioner’s quotations from Kawai paragraph two, Petitioner asserts:

To take advantage of these known locations [based on standards in paragraph two], Kawai teaches detecting the width of the check and moving the micr read head based on the width in order to read encoded micr data from documents. [Ex. 1006] at ¶¶ 0025-0027.

Pet. 13. Petitioner's assertion based on paragraphs 25 through 27 of Kawai, however, are not supported adequately by the disclosure of Kawai. The cited portions of Kawai themselves do not describe detecting the width of the check or moving a MICR read head based on the detected width. Rather, the cited portions of Kawai describe more abstractly a method of reading a micr character by "detecting an end portion" of a medium relative to the direction that the medium was "fed." Specifically, the cited portions of Kawai state:

[0025] According to the invention, there is also provided a method of reading an MICR character printed on a medium fed in a first direction by an MICR reading head, having:

[0026] detecting an end portion in a second direction perpendicular to the first direction of the medium; and

[0027] moving the MICR reading head to a predetermined position at a predetermined distance from the detected end portion.

Ex. 1006 ¶¶ 25–27; *see also id.* at Abstract (describing detecting an end portion and moving a micr read head in a similar abstract manner, without expressly describing sensing or using a width of a check).

In asserting that these paragraphs teach "detecting the width the check and moving the micr read head based on the width in order to read encoded micr data from documents," Petitioner does not provide any explanation or evidence why these paragraphs would have conveyed to one of ordinary skill in the art Petitioner's assertions concerning the width of the check. *See* Pet. 13. Moreover, Petitioner does not rely on the testimony of Dr. Kaufman to identify and explain differences among (i) Kawai's description of a standard in paragraph two, (ii) Kawai's description of detecting an end

portion relative to a fed direction of a medium in paragraphs 25 to 27, and (iii) Petitioner's assertion regarding Kawai's teaching moving a magnetic read head in response to a sensed width in paragraphs 2 and 25–27. *See* Pet. 13 (describing Kawai's teachings with only citations to Kawai, not citing testimony of Dr. Kaufman); *id.* at 13–14 (citing testimony of Dr. Kaufman only for the purported obviousness of, and motivation to combine, the teachings of Graef and Kawai).

A petitioner must identify with particularity supporting evidence in its petition. *See* 37 C.F.R. § 104(b); *Harmonic*, 815 F.3d at 1363 (citing 35 U.S.C. § 312(a)(3)).

iii. Kawai's Paragraph One and Dr. Kaufman's Testimony

In asserting reasons one of ordinary skill in the art would have been motivated to combine the teachings of Graef and Kawai, Petitioner asserts, without further explanation, that “Kawai is directed at using the width of the check as a reference for the location of the magnetically coded information and moving the micr read head based on the reference (i.e., width of the check).” Pet. 14. For this conclusory assertion, Petitioner cites one paragraph of Kawai and two paragraphs of Dr. Kaufman's testimony. *Id.* (citing Ex. 1006 ¶ 1; Ex. 1003 ¶¶ 44–45).

Turning first to Petitioner's reliance on a paragraph in Kawai, the cited paragraph states in its entirety:

[0001] The present invention relates to an MICR reading mechanism for reading MICR characters printed with a special magnetic ink, and concerns the realization of the accurate reading

of MICR characters by a scanner having a center paper feeding mechanism.

The cited paragraph does not mention a width, much less discuss using a sensed-width of a check as a reference for the location of the magnetically coded information, as Petitioner asserts (Pet. 14). Nor does the cited paragraph mention moving a micr read head, much less moving a micr read head based on the width of a check, as Petitioner also asserts (Pet. 14). To the extent that Petitioner intended the cited portion of Dr. Kaufman's testimony to explain the cited paragraph in Kawai, Dr. Kaufman's testimony does not do so. Dr. Kaufman's testimony does not reference, quote, summarize, or otherwise discuss paragraph one of Kawai. See Ex. 1003 ¶¶ 44–45.

We turn next to consider the support that these two paragraphs of Dr. Kaufman's testimony provide for Petitioner's conclusory assertion that "Kawai is directed at using the width of the check as a reference for the location of the magnetically coded information and moving the micr read head based on the reference (i.e., width of the check)." Pet. 14 (citing Ex. 1003 ¶¶ 44–45). Petitioner's assertion and citation in the Petition occur in the context of asserting that one of ordinary skill in the art "would have been motivated to apply the teachings of Kawai to Graef" for a particular purpose because "of the similarities in the goals of Graef and Kawai." Pet. 14 (citing Ex. 1003 ¶¶ 44–45).

Although Petitioner cites paragraphs 44 and 45 of Dr. Kaufman's testimony, Petitioner does not quote, paraphrase, summarize, or otherwise present the testimony. See Pet. 14. As such, Petitioner fails to explain the

relevance of the cited paragraphs. Thus, under 35 U.S.C. § 312(a)(3) and 37 C.F.R. § 104(b), we give the cited two paragraphs no weight. *Harmonic*, 815 F.3d at 1363; 37 C.F.R. § 104(b); see *Magnum Oil*, 2016 WL 3974202, at *10.

Finally, we are mindful of the Federal Circuit’s instruction that we are not “free to adopt arguments on behalf of petitioners that could have been, but were not, raised by the petitioner during an [*inter partes* review].” *Magnum Oil*, 2016 WL 3974202, at *10.

iv. Conclusion

In sum, Petitioner’s scant and conclusory references to Graef and Kawai are insufficient to establish a reasonable likelihood that Petitioner would prevail in showing the combination of Graef and Kawai would have conveyed to one of ordinary skill in the art the required moving a magnetic read head in response to sensing the width of the check.

e. Conclusion Regarding Independent Claim 1 and Dependent Claims 2–8 and 12–16

Based on the shortcomings of Petitioner’s contentions regarding independent claim 1 described above, we determine the Petition does not show a reasonable likelihood that Petitioner would prevail in establishing independent claim 1 would have been obvious over the combination of Graef, Kawai, and Mennie.

Claims 2–8 and 12–16 each depend directly or indirectly from independent claim 1. Petitioner’s contentions concerning these dependent claims likewise rely directly or indirectly on its contentions regarding

claim 1. Pet. 21, 23, 27, 29, 31, 33, 34, 37, 38, 40. Thus, for the reasons discussed regarding claim 1, we also determine the Petition does not show a reasonable likelihood that Petitioner would prevail in establishing any of claims 2–8 and 12–16 would have been obvious over the combination of Graef, Kawai, and Mennie.

6. Independent Claim 17

Independent claim 17 recites a two-step “method of operation of a magnetic coded record sensing structure.” Ex. 1001, 42:60–18:9. The recited method involves operation of a “width sensor in a machine operative to read magnetic indicia in a line on the coded record” and requires two magnetic read heads. *Id.* The two steps recited in claim 17 require, respectively, “sensing a width dimension associated with a magnetic coded record” and moving one of two magnetic read heads. *Id.*

Regarding independent claim 17, Petitioner cursorily asserts that the same analysis it proffered with regard to independent claim 1 also applies to independent claim 17. Pet. 41–42. The entirety of Petitioner’s specific contentions regarding independent claim 17 follow:

Claim 17 – [17.0] “A method of operation of a magnetic coded record sensing structure, comprising:”

See Claim element [1.0], *supra*; *see also* Ex. 1003 at ¶ 117.

[17.1] (a) sensing a width dimension associated with a magnetic coded record through operation of at least one width sensor in a machine operative to read magnetic indicia in a line on the coded record;

See Claim element [1.2], *supra*; *see also* Ex. 1003 at ¶ 118.

[17.2] (b) moving at least one of two magnetic read heads through operation of the machine to cause at least one of the magnetic read heads to be aligned with the magnetic indicia regardless of a facing position of the coded record.

See Claim element [1.3a] and [1.3b], supra; see also Ex. 1003 at ¶ 119.

Pet. 41–42.

Regarding independent claim 17, Petitioner directs us to (i) its earlier arguments made in connection with independent claim 1 and (ii) to three paragraphs of Dr. Kaufman’s testimony. Each of paragraphs 117–119 of Dr. Kaufman’s testimony directs a reader to an earlier portion of the Declaration regarding distinct limitations of claim 1 without elaboration. *See, e.g.*, Ex. 1003 ¶ 118 (stating “See Ground 1: [1.2], supra.”). As such, these paragraphs do not add reasoning, analysis, or evidence to be considered beyond that which we have found insufficient for claim 1.

Independent claim 17, like independent claim 1, requires two magnetic read heads. For the reasons discussed previously with respect to claim 1, we determine that the Petition does not show a reasonable likelihood that

Petitioner would prevail in establishing independent claim 17 would have been obvious over Graef, Kawai, and Mennie.

Moreover, the Petition, as well as the paragraphs of Dr. Kaufman's testimony to which it cites, does not acknowledge, much less address adequately, differences between independent claim 1 and independent claim 17. For example, independent claim 17 recites "a magnetic coded record," whereas independent claim 1 recites a "financial check." As the Federal Circuit has made clear, the Board cannot rely on conclusory statements by Petitioner that the same analysis applies without further explanation; rather, Petitioner must present "particularized arguments explaining why its arguments . . . would be cross-applicable." *Cf. Magnum Oil*, 2016 WL 3974202, at *9; *id.* at *10 ("In its petition, [Petitioner] merely argued in conclusory fashion that '[t]he same analysis' for Alpha also applied to Lehr, without further explanation."). Thus, in this case in light of the differences in the claim language, Petitioner's conclusory statements implying that the same analysis for claim 1 also applies to independent claim 17 do not satisfy Petitioner's burden to demonstrate obviousness.

Accordingly, for this additional reason, we determine that the Petition does not show a reasonable likelihood that Petitioner would prevail in establishing independent claim 17 would have been obvious over Graef, Kawai, and Mennie.

7. Independent Claim 18 and Dependent Claims 19 and 20

Like independent claim 1, independent claim 18 requires two magnetic read heads. Ex. 1001, 43:18–44:3. Petitioner again relies on its assertion that

“it would have been obvious to one of ordinary skill in the art that a second magnetic shuttle *could* be added to Graef’s system” and a purported advantage of doing so, which we find unpersuasive for the same reasons discussed above with respect to claim 1. *See* Pet. 43. Petitioner also asserts again that Mennie discloses the limitation of teaching plural magnetic read heads (*id.* at 44), which we do not find persuasive for the reasons discussed previously.

In addition, independent claim 18, unlike claim 1, recites “operating an automated banking machine to obtain [a] dimensional feature associated with a financial check.” Ex. 1001, 43:12–13. Independent claim 18 further requires “operating the [automated banking] machine based . . . on the . . . dimensional feature” of the financial check “to move the first magnetic read head relative to the second magnetic read head.” *Id.* at 44:4–7 (step (b)).

Petitioner relies on its assertions regarding a “width of the check” recited in claim 1 for the “dimensional feature associated with a financial check.” *See, e.g.,* Pet. 42 (indicating Petitioner’s analysis with regard to claim elements 1.1 and 1.2 of claim 1); *id.* at 10 (indicating claim element 1.2 refers to step (b) of claim 1—“sensing through operation of at least one sensor in the machine, *a width associated with the check*”) (emphasis added).

More specifically, with regard to step (b) recited in claim 18, Petitioner asserts that its contentions concerning sensing a width and moving one of two magnetic read heads in claim 1 should be applied to “operating the [automated banking] machine based . . . on the . . . dimensional feature” of the financial check “to move the first magnetic read head relative to the

second magnetic read head,” recited in claim 18. *Id.* at 44 (indicating contentions regarding “Claim Elements [1.2] and [1.3a]” should be applied to step (b) recited in independent claim 18); *see id.* at 10 (identifying claim element [1.2] as step (b) in claim 1 reciting “sensing . . . a width associated with the check”); *id.* at 12 (identifying claim element [1.3a] as including “moving responsive to . . . the width sensed in . . . one of two magnetic read heads”). For the reasons discussed previously with regard to claim 1, we are not persuaded by these contentions.

Petitioner also cites paragraphs 120 and 127 of Dr. Kaufman’s testimony, but does not quote, paraphrase, summarize, or otherwise present it. *Id.* at 42 (nominally addressing step (a) of claim 18) (citing Ex. 1003 ¶ 120); *id.* at 44 (nominally addressing step (b) of claim 18) (citing Ex. 1003 ¶ 127). Thus, Petitioner’s citations to Dr. Kaufman’s testimony, without more, do not improve sufficiently Petitioner’s position regarding claim 18. This is because, similarly as discussed above with respect to independent claim 17, Petitioner’s citations to paragraphs 120 and 127 of Dr. Kaufman’s testimony merely direct a reader to earlier portions of the Declaration addressing limitations of claim 1 without elaboration. Ex. 1003 ¶ 120 (stating “See Ground 1: [1.1] and [1.2], supra.”).

Accordingly, for this additional reason as well as those reasons discussed above with regard to independent claim 1, we determine that the Petition does not show a reasonable likelihood that Petitioner would prevail in establishing independent claim 18, or its dependent claims 19 and 20, would have been obvious over Graef, Kawai, and Mennie.

III. CONCLUSION

For the foregoing reasons, we determine that the information presented in the Petition fails to establish a reasonable likelihood that Petitioner would prevail in showing that at least one of claims 1–8 and 12–20 of the challenged patent is unpatentable.

IV. ORDER

After due consideration of the record before us and for the foregoing reasons, it is:

ORDERED that the Petition is denied and no trial is instituted.

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