

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

SQUARE, INC.
Petitioner

v.

4361423 CANADA INC.
Patent Owner

Patent No. 8,286,875
Inter Partes Review No. 2019-01625

**PATENT OWNER'S NOTICE OF APPEAL
TO THE U.S. COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

Pursuant to 35 U.S.C. §§ 141 (c), 142, and 319, 37 C.F.R. §§ 90.2(a) and 90.3(a), Rule 4(a) of the Federal Rules of Appellate Procedure, and 28 U.S.C. §1292(c), Patent Owner 4361423 Canada Inc. hereby appeals to the United States Court of Appeals for the Federal Circuit from the Final Written Decision (Paper 35) entered by the Patent Trial and Appeal Board on March 25, 2021 (Attachment A). In particular, Patent Owner identifies the following issues on appeal:

- Whether the appointment of Administrative Patent Judges (‘APJs’) of the Patent Trial and Appeal Board by the Secretary of Commerce is constitutional under the Appointments Clause.
- Whether APJs have authority to render a Final Written Decision in this proceeding.
- Whether the Federal Circuit’s attempted cure of the Appointments Clause violation found in *Arthrex, Inc. v. Smith & Nephew, Inc.*, 941 F.3d 1320 (Fed. Cir. 2019), is sufficient.
- The relief that Patent Owner is entitled to for the constitutional violation.

Patent Owner is concurrently filing true and correct copies of this Notice of Appeal, along with the required fees, with the Director of the United States Patent and Trademark Office and the Clerk of the United States Court of Appeals for the Federal Circuit.

Dated: May 27, 2021

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing **Patent Owner's Notice of Appeal to the U.S. Court of Appeals for the Federal Circuit** was served on May 27, 2021 via E-Mail to counsel for Petitioners at the following:

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ATTACHMENT A

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SQUARE, INC.,
Petitioner,

v.

4361423 CANADA INC.,
Patent Owner.

IPR2019-01625
Patent 8,286,875 B2

Before JAMESON LEE, ROBERT J. WEINSCHENK, and
KEVIN C. TROCK, *Administrative Patent Judges*.

WEINSCHENK, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

A. *Background and Summary*

Square, Inc. (“Petitioner”) filed a Petition (Paper 14, “Pet.”) requesting an *inter partes* review of claims 1–3, 6, 12, 14–16, 18–26, and 28 (“the challenged claims”) of U.S. Patent No. 8,286,875 B2 (Ex. 1001, “the ’875 patent”). 4361423 Canada Inc. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”) to the Petition. We instituted an *inter partes* review of the challenged claims on March 30, 2020. Paper 12 (“Dec. on Inst.”), 14. After institution, Patent Owner filed a Response (Paper 21, “PO Resp.”) to the Petition, Petitioner filed a Reply (Paper 26, “Pet. Reply”) to the Response, and Patent Owner filed a Sur-reply (Paper 27, “PO Sur-reply”) to the Reply. We held an oral hearing on January 27, 2021, and a transcript of the hearing is included in the record. Paper 34 (“Tr.”).

For the reasons set forth below, Petitioner has shown by a preponderance of the evidence that claims 1–3, 6, 12, 14–16, 18–26, and 28 of the ’875 patent are unpatentable.

B. *Real Parties in Interest*

Each party identifies itself as the only real party in interest. Pet. 4; Paper 5, 2.

C. *Related Matters*

The parties indicate that the ’875 patent is the subject of the following district court case: *4361423 Canada Inc. v. Square, Inc.*, No. 4:19-cv-04311 (N.D. Cal.). Pet. 4; Paper 5, 2. Petitioner indicates that the ’875 patent is the subject of another petition for *inter partes* review in IPR2019-01626. Pet. 4. We declined to institute an *inter partes* review in IPR2019-01626. *See* IPR2019-01626, Paper 14, 11.

D. The '875 Patent

The '875 patent relates to an apparatus, system, and method “for commercial transactions using a transaction card via a communication device.” Ex. 1001, 2:15–25. Specifically, the '875 patent describes a transaction apparatus, such as a portable point of sale (“POS”) device, linked to a communication device, such as a mobile phone. *Id.* at 5:49–53, 5:63–6:3. Figure 2 is reproduced below.

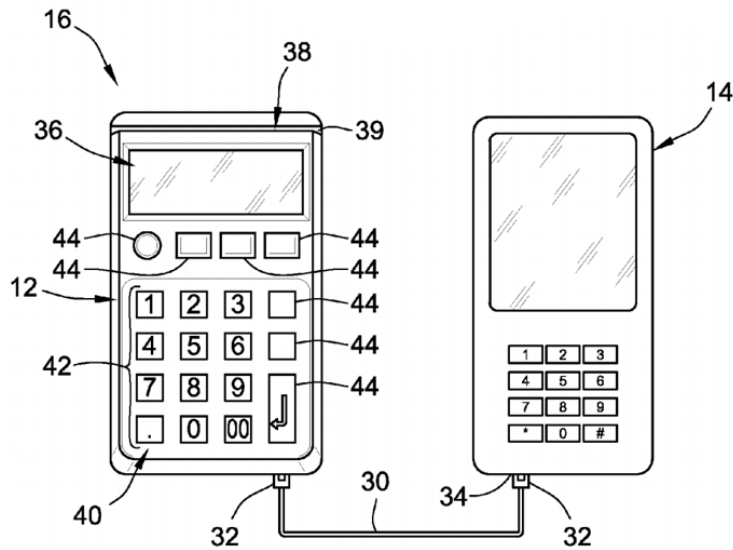


FIG. 2

Figure 2 shows an example of a transaction and communication assembly. *Id.* at 7:17–22. The assembly includes POS device 12 linked to mobile phone 14 via cable 30. *Id.* POS device 12 includes card reader slot 39. *Id.* at 7:29–32. The '875 patent explains that a user swipes a card through slot 39, a card reader captures information from the card, and the card reader transfers the information to a microcontroller unit (“MCU”). *Id.* at 7:41–42, 7:55–58. The MCU converts the information into an analog audio signal

and transmits it via cable 30 to mobile phone 14. *Id.* at 7:64–8:3. Mobile phone 14 then transmits the information to a transaction server. *Id.* at 8:4–5. The transaction server responds to mobile phone 14 by indicating whether a processor/issuer accepts or rejects the transaction. *Id.* at 8:5–17.

E. Illustrative Claim

Of the challenged claims, claims 1, 12, 18, 22, 24, 26, and 28 are independent. Claim 1 is reproduced below.

1. An apparatus for effecting commercial transactions between an input device and a remote transaction server using a transaction card, said apparatus comprising:

an input device for capturing information from the transaction card;

a controller for converting the captured card information into a signal having an analog audio format suitable for transmission to an analog hands-free jack of a mobile communication device; and

a communication link for coupling said input device to an analog hands-free jack of a mobile communication device for the transmission of said analog-audio-format signals therebetween;

wherein when said input device captures the card information, said controller converts the card information into said analog-audio-format signal and transmits said converted signal via said communication link to said mobile communication device; and

wherein said mobile communication device automatically transmits the captured card information to the remote transaction server and receives transaction validation information from said remote transaction server.

Id. at 11:48–12:3.

F. Evidence

Petitioner submits the following evidence:

Evidence	Exhibit No.
Declaration of Bruce McNair (“McNair Declaration”)	1003
Proctor, US 2002/0091633 A1, published July 11, 2002 (“Proctor”)	1004
Vrotsos, US 2005/0236480 A1, published Oct. 27, 2005 (“Vrotsos”)	1006
Eisner, US 5,838,773, issued Nov. 17, 1998 (“Eisner”)	1008
Hart, US 7,673,799 B2, issued Mar. 9, 2010 (“Hart”)	1018
Second Declaration of Bruce McNair (“McNair Second Declaration”)	1042

Patent Owner submits the Declaration of Ivan Zatkovich. Ex. 2004 (“Zatkovich Declaration”).

G. Asserted Grounds

Petitioner asserts that the challenged claims are unpatentable on the following grounds:

Claims Challenged	35 U.S.C. §	Reference(s)/Basis
1–3, 6	103 ¹	Proctor, Vrotsos
12, 14–16, 18–26, 28	103	Proctor, Hart
1–3, 6, 12, 18, 21, 22, 24, 26, 28	103	Eisner, Proctor
14–16, 19, 20, 23, 25	103	Eisner, Proctor, Hart

II. ANALYSIS

A. Legal Standards

A claim is unpatentable as obvious under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that

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 ’875 patent was filed before the effective date of the relevant amendment, the pre-AIA version of § 103 applies.

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 the subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including 1) the scope and content of the prior art; 2) any differences between the claimed subject matter and the prior art; 3) the level of ordinary skill in the art; and 4) any objective indicia of non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

Petitioner asserts that

a person of ordinary skill in the art (“POSITA”), at the time the ’875 patent was filed, would have been a person with a bachelor’s degree in electrical engineering, computer engineering, or equivalent and have at least one to two years of relevant experience in the fields of embedded systems and mobile communication device interfaces, or otherwise equivalent industry experience in the relevant field. Less work experience may be compensated by a higher level of education, such as a Master’s Degree, and vice versa.

Pet. 14–15 (citing Ex. 1003 ¶¶ 5–12, 22–27). Petitioner’s description of the level of ordinary skill in the art is supported by the testimony of Petitioner’s declarant, Mr. Bruce McNair. Ex. 1003 ¶¶ 22–27. Patent Owner’s declarant, Mr. Ivan Zatkovich, agrees with Petitioner’s description. Ex. 2004 ¶ 14. Therefore, we adopt Petitioner’s description, but delete the qualifier “at least” to prevent the description from extending beyond the level of ordinary skill in the art.

C. Claim Construction

In an *inter partes* review proceeding, a claim of a patent is construed using the same standard used in federal district court, including construing

the claim in accordance with the ordinary and customary meaning of the 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) (2019).

The parties' disputes about the asserted grounds of unpatentability raise issues regarding the meaning of the following claim terms.

1. Portable

Petitioner contends that the term "portable" means "can be carried or moved." Pet. 42. Petitioner also argues that the '875 patent "does not recite any criteria for describing a device as 'portable,' but [indicates that] a device linked to a mobile communication device . . . may be 'portable.'" *Id.* (citing Ex. 1001, 7:19–22).

Patent Owner disagrees with Petitioner. PO Resp. 33–36. Patent Owner contends that the term "portable" requires "a means of power that could be supplied in a mobile setting." *Id.* at 35. Patent Owner argues that the '875 patent describes "a portable point-of-sale system that could be used in any number of mobile contexts, such as for taxi drivers and other merchants." *Id.* (citing Ex. 1001, 8:65–9:19). According to Patent Owner, a person of ordinary skill in the art would understand "that portability would require that a device cannot rely on fixed, non-portable connections for communication." *Id.* at 35–36 (citing Ex. 2004 ¶¶ 72–74, 78).

As discussed below, even if we assume that the term "portable" requires a means of power that could be supplied in a mobile setting, the asserted prior art nonetheless teaches such a portable device. *See* Section II.D.7. As a result, we need not resolve this particular claim construction issue in order to resolve the parties' disputes about the asserted grounds of unpatentability.

2. *Further Processing by Circuitry Contained in Said Mobile Communication Device*

Patent Owner contends that the phrase “further processing by circuitry contained in said mobile communication device” requires “the recovery of the information from the audio signal into digital information.” PO Resp. 40–41. Patent Owner cites to a portion of the ’875 patent that states “[t]he analog signal from the magnetic card 24 is sent via the hands-free interface 41 where the software application of the controller 51 [in the cell phone] converts the received signal back to binary data for example as stored on the magnetic card 34.” *Id.* at 40 (citing Ex. 1001, 10:53-57). Patent Owner contends “this disclosure shows” that “the limitation of ‘further processing’ is not merely relaying an encrypted signal or reformatting the signal for transmission to the transaction server.” *Id.*

Petitioner disagrees with Patent Owner. Pet. Reply 21–22. Petitioner argues that “the claims do not specify what further processing is required or provide any basis to limit and exclude transmission processing performed by the phone to transmit received signals to the server over a cellular network.” *Id.* at 22.

Claim 24 recites “providing said converted signal indicative of the magnetically recorded information stored on a magnetic stripe to said mobile communication device for further processing by circuitry contained in said mobile communication device.”² Ex. 1001, 14:37–41. Thus, the claim language does not require that the mobile communication device perform a specific type of processing. *See id.*

² Claim 24 is the only challenged claim that recites the phrase “further processing by circuitry contained in said mobile communication device.”

As discussed above, Patent Owner identifies one embodiment of the '875 patent in which the mobile communication device receives an analog signal and converts it “back to binary data for example as stored on the magnetic card.” *Id.* at 10:26–28, 10:53–57. But the '875 patent describes other embodiments. For example, the '875 patent describes an embodiment in which the mobile communication device receives an analog audio signal, “encodes the audio input using for example the normal GSM voice codec,” and sends the encoded audio signal to the transaction server. *Id.* at 10:4–11. Thus, in that embodiment, the mobile communication device does *not* convert the received analog signal back to binary data as stored on the magnetic card. *See id.*

Because, for the reasons discussed above, Patent Owner’s interpretation is not consistent with the scope of the claim language and the written description, we decline to adopt it. No further construction of the phrase “further processing by circuitry contained in said mobile communication device” is necessary to resolve the parties’ disputes about the asserted grounds of unpatentability. *See* Section II.D.10.

D. Obviousness of Claims 1–3, 6, 12, 18, 21, 22, 24, 26, and 28 over Eisner and Proctor

Petitioner argues that claims 1–3, 6, 12, 18, 21, 22, 24, 26, and 28 would have been obvious over Eisner and Proctor. Pet. 56–84. For the reasons discussed below, Petitioner has shown by a preponderance of the evidence that claims 1–3, 6, 12, 18, 21, 22, 24, 26, and 28 would have been obvious over Eisner and Proctor.

1. Overview of Eisner and Proctor

Eisner teaches a secure electronic financial transaction system. Ex. 1008, 1:10–16. Figure 2 is reproduced below.

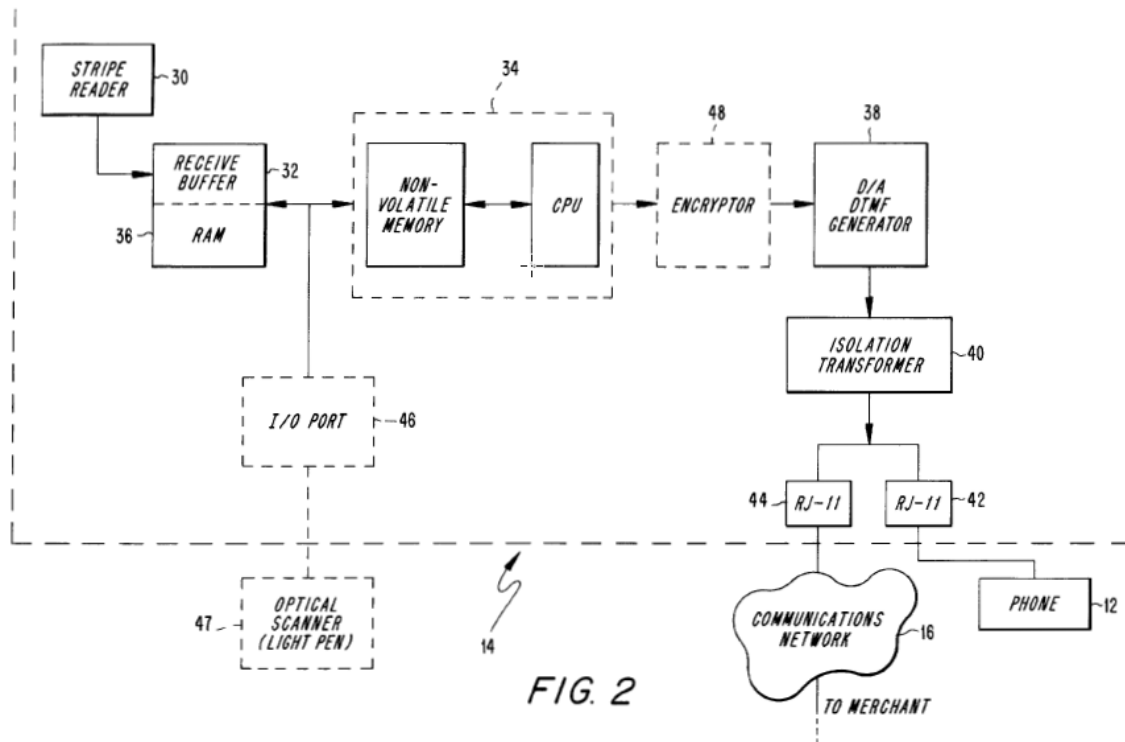


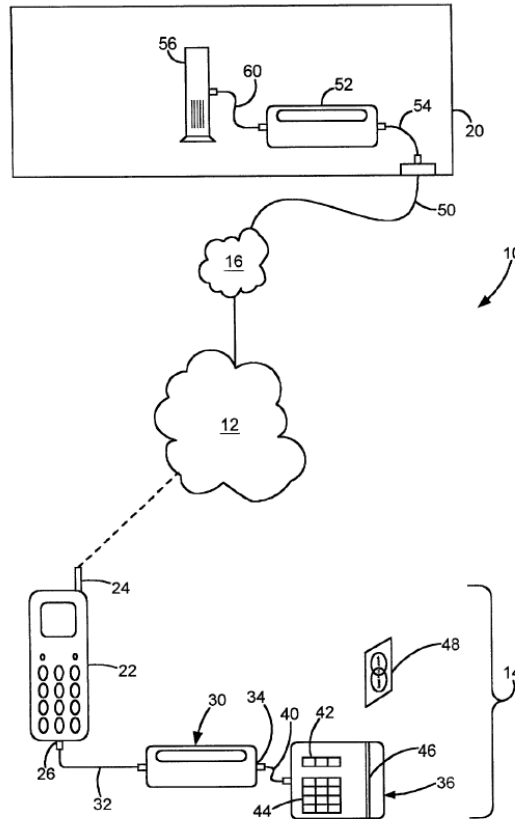
FIG. 2

Id. at Fig. 2. Figure 2 is a block diagram of personal reader capture transfer technology unit (“PRCTT”) 14. *Id.* at 3:4–6, 4:20–26. PRCTT 14 includes magnetic stripe reader 30, single chip computer 34, digital to analog dual tone multi frequency (“DTMF”) tone generator 38, telephone-in jack 42, and line-out jack 44. *Id.* at 4:20–26.

Eisner teaches that magnetic stripe reader 30 captures data from a transaction card. *Id.* at 4:27–40. Single chip computer 34 encodes the captured data. *Id.* at 5:3–14. DTMF tone generator 34 converts the encoded data to analog tones corresponding to the twelve tones of the DTMF standard. *Id.* at 5:15–26. The data is then output at line-out jack 44 to communication network 16. *Id.* at 5:26–36.

Proctor teaches a financial transaction verification system that uses a wireless or cellular network. Ex. 1004 ¶ 7. Figure 1 is reproduced below.

FIG. 1



Id. at Fig. 1. Figure 1 shows a block diagram of financial transaction verification system 10. *Id.* ¶¶ 6–7. Financial transaction verification system 10 includes conventional credit card verification terminal 36 that is connected to converter 30 via cable 40. *Id.* ¶ 10. Converter 30 is connected to cellular telephone 22 via cable 32 and hands-free connector 26. *Id.* ¶¶ 8–9. Cellular phone 22 includes antenna 24 for communicating with central verification facility 20 via cellular network 12. *Id.* ¶¶ 7–8.

Proctor teaches that terminal 36 includes magnetic credit card reader slot 46, which reads unique data encoded on a magnetic stripe on credit card 48. *Id.* ¶ 10. Terminal 36 converts the scanned data from a digital form to an audible stream of tones. *Id.* ¶¶ 11, 16. Converter 30 converts the audible stream of tones to an encoded format that can be transmitted via cellular

network 12. *Id.* ¶ 16. Cellular phone 22 then transmits the encoded stream to central verification facility 20 via cellular network 12. *Id.* Proctor also teaches that the components of merchant system 14 may be combined or integrated, for example, converter 30 may be incorporated into cellular phone 22 or terminal 36. *Id.* ¶ 18.

2. *Claim 1*

Claim 1 recites “[a]n apparatus for effecting commercial transactions between an input device and a remote transaction server using a transaction card.”³ Ex. 1001, 11:48–50. Eisner teaches a PRCTT for effecting commercial transactions between a card reader and a remote transaction server using a credit card. Pet. 61–63; Ex. 1008, 3:20–31, 4:19–40, Figs. 1, 2. Patent Owner does not dispute that the Eisner and Proctor combination teaches the preamble of claim 1.

Claim 1 recites “an input device for capturing information from the transaction card.” Ex. 1001, 11:51–52. Eisner teaches that the PRCTT includes a card reader for capturing information from a credit card. Pet. 63; Ex. 1008, 4:27–40. Patent Owner does not dispute that the Eisner and Proctor combination teaches this limitation of claim 1.

Claim 1 recites “a controller for converting the captured card information into a signal having an analog audio format suitable for transmission to an analog hands-free jack of a mobile communication device.” Ex. 1001, 11:53–56. Eisner teaches that the PRCTT includes an “Intel micro controller” that “converts” the captured card information “to

³ We need not decide whether the preamble in any of the challenged independent claims is limiting because we determine that the prior art in each asserted ground teaches the recitations in each preamble.

analog tones corresponding to the twelve tones generated by a touchtone phone or other device conforming to the dual tone multi-frequency (DTMF) standard.” Pet. 63–64; Ex. 1008, 5:15–26. The evidence of record indicates that a DTMF signal is an analog audio signal suitable for transmission to an analog hands-free jack of a mobile phone. Pet. 26 n.5; Ex. 1001, 8:23–30; Ex. 1003 ¶ 48; Ex. 1041, 58:22–59:2; Ex. 2004 ¶ 35; Tr. 66:13–67:3.

Proctor teaches a mobile phone with a “hands-free” jack. Pet. 64–65; Ex. 1004 ¶ 8, Fig. 1. As discussed in more detail below, it would have been obvious to a person of ordinary skill in the art to combine the cited teachings of Eisner and Proctor so that Eisner’s PRCTT connects to the hands-free jack on Proctor’s mobile phone. Pet. 60–61; Ex. 1003 ¶ 100.

Patent Owner responds that Proctor does not teach converting the captured card information into a signal having an analog audio format suitable for transmission to an analog hands-free jack of a mobile communication device. PO Resp. 43–44; PO Sur-reply 22. Patent Owner argues that “Petitioner never bothers to establish how Proctor’s modulated tonal signal would constitute a format suitable for transmission to a hands-free jack of a mobile phone.” PO Resp. 44; *see* PO Sur-reply 22. Patent Owner also argues that Proctor’s converter is necessary to convert the captured card information to a format suitable for a hands-free jack, but Petitioner relies on an embodiment where Proctor’s converter is incorporated into the mobile phone. PO Resp. 18–19, 22, 44. Thus, according to Patent Owner, “given Petitioner’s asserted embodiment of Proctor, the connection would not be to a hands-free jack at all but instead to some port leading to the converter placed inside a specialized communication device.” *Id.* at 44.

Patent Owner's argument is not persuasive because it addresses Proctor individually, not the combination of Eisner and Proctor. *See In re Keller*, 642 F.2d 413, 426 (CCPA 1981) (“[O]ne cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.”). As discussed above, Eisner's PRCTT includes a controller that converts the captured card information to a DTMF signal that is suitable for transmission to an analog hands-free jack of a mobile phone. Ex. 1001, 8:23–30; Ex. 1003 ¶ 48; Ex. 1008, 5:15–26; Ex. 1041, 58:22–59:2; Ex. 2004 ¶ 35; Tr. 66:13–67:3. As a result, a person of ordinary skill in the art would have understood that Eisner's PRCTT can be connected to the hands-free jack on Proctor's mobile phone even if Proctor's converter is incorporated into the mobile phone. Ex. 1003 ¶¶ 48, 100.

Patent Owner responds that Eisner does not teach converting the captured card information into a signal having an analog audio format suitable for transmission to an analog hands-free jack of a mobile communication device. PO Resp. 44–45; PO Sur-reply 20–21. Patent Owner argues that Eisner teaches an isolation transformer that conditions a signal for output on an RJ-11 jack. PO Resp. 44 (citing Ex. 2004 ¶ 101). Thus, according to Patent Owner, Eisner's output “would not be compatible” with the hands-free jack on Proctor's mobile phone. *Id.* (citing Ex. 2004 ¶ 94). Patent Owner also argues that “[c]onsistent with Petitioner's own assertions [in a related case], neither the plug nor the conductors of an RJ-11 connector would be compatible with a standard 3.5 mm hands-free audio jack present on mobile phones.” *Id.* (citing Ex. 2004 ¶¶ 94–99); *see* PO Sur-reply 20–21.

Patent Owner’s argument is not persuasive. First, although Eisner teaches an embodiment where the DTMF signal is output over an RJ-11 jack, Eisner teaches that the output jack may be “any other suitable interface.” Ex. 1008, 5:34–36. And, as discussed above, Eisner’s DTMF signal is suitable for transmission over a hands-free jack. Ex. 1001, 8:23–30; Ex. 1003 ¶ 48; Ex. 1041, 58:22–59:2; Ex. 2004 ¶ 35; Tr. 66:13–67:3. Further, even if some additional conditioning would have been necessary to output Eisner’s DTMF signal over a hands-free jack, a person of ordinary skill in the art would have known how to incorporate that conditioning into Eisner’s PRCTT. Pet. 60 n.9; Ex. 1003 ¶¶ 48–51; Ex. 1041, 42:6–43:16.

Second, Patent Owner’s argument misinterprets Petitioner’s proposed combination. Petitioner does not propose connecting Eisner’s RJ-11 jack to Proctor’s hands-free jack. *See* Pet. 60–61; Ex. 1003 ¶ 100. Rather, Petitioner asserts that Eisner’s PRCTT transmits the DTMF signal “over a hands-free jack *instead* of an RJ-11 telephone jack.”⁴ Pet. 61; Ex. 1003 ¶ 100 (emphasis added). In other words, in the proposed combination, Eisner’s PRCTT includes a hands-free jack that is connected to the hands-free jack on Proctor’s mobile phone. Pet. 60–61; Ex. 1003 ¶ 100.

⁴ Petitioner argues in a related case that disclosure of an RJ-11 jack in a provisional application does not provide written description support for a hands-free jack. *See* IPR2019-01626, Paper 2, 20–23. As discussed above, Petitioner argues in this case that it would have been obvious to use a hands-free jack instead of an RJ-11 jack. Pet. 6; Ex. 1003 ¶ 100. Petitioner’s arguments are not inconsistent because the standard for written description support is not the same as the standard for obviousness. *See Knowles Elecs. LLC v. Cirrus Logic, Inc.*, 883 F.3d 1358, 1365 (Fed. Cir. 2018) (“[A] description which renders obvious a claimed invention is not sufficient to satisfy the written description requirement.”).

Patent Owner responds that “Petitioner offers an alternative theory, suggesting in [a] footnote that Eisner’s DTMF signal might be sent for processing by Proctor’s converter 30 before the signal is passed along to the mobile phone.”⁵ PO Resp. 45 (citing Pet. 60 n.9). Patent Owner argues that Proctor’s converter “accept[s] modem signals and then produce[s] (not receive[s]) DTMF signals.” *Id.* (citing Ex. 2004 ¶¶ 102–104) (emphasis omitted). As a result, according to Patent Owner, “even if Eisner’s DTMF signals were somehow sent into the part of the Proctor converter intended to communicate with the mobile phone using audio signals, Proctor’s converter would only convert them to modem signals which are not transmissible on the cellular network.” *Id.* at 46 (citing Ex. 2004 ¶¶ 105, 112).

Patent Owner’s argument is not persuasive. Proctor’s converter does not simply accept a modem signal and produce a DTMF signal. *See* Ex. 1004 ¶¶ 9, 16. Proctor teaches that the converter converts a signal to an “encoded format that is readily transmitted via digital cellular networks,” and is further “described in U.S. Pat. No. 6,144,336, by Dan Preston, et al.” (“Preston”). *Id.* According to Preston, the converter converts a signal to a DTMF signal, and then formats the DTMF signal according to the appropriate standard for a cellular network (e.g., CDMA, TDMA, or GSM). Ex. 1005, 11:30–47. In other words, Preston indicates that if the converter receives a signal for transmission over a cellular network that already is in DTMF format, the converter would still need to format the DTMF signal

⁵ Petitioner relies primarily on the Proctor embodiment where the converter is incorporated into the mobile phone, but Petitioner notes that the embodiment where the converter is separate from the mobile phone also teaches the limitations of the challenged claims (when combined with Eisner). Pet. 18 n.3, 60 n.9.

according to the appropriate standard for the cellular network. Ex. 1004 ¶¶ 9, 16; Ex. 1005, 11:30–47. We, therefore, disagree with Patent Owner’s argument that the converter would instead convert the DTMF signal to a modem signal that is not readily transmissible over the cellular network. *See* PO Resp. 45–46; Ex. 2004 ¶¶ 102–105.

Claim 1 also recites “a communication link for coupling said input device to an analog hands-free jack of a mobile communication device for the transmission of said analog-audio-format signals therebetween.” Ex. 1001, 11:57–60. Eisner teaches that the PRCTT outputs the DTMF signal to “any . . . suitable interface.” Pet. 63–64; Ex. 1008, 5:34–36. Proctor teaches a cable that is inserted into the “hands-free” jack on the mobile phone. Pet. 65–66; Ex. 1004 ¶¶ 8–10, Fig. 1. As discussed in more detail below, it would have been obvious to a person of ordinary skill in the art to combine the cited teachings of Eisner and Proctor so that Eisner’s PRCTT connects to the hands-free jack on Proctor’s mobile phone. Pet. 60–61; Ex. 1003 ¶ 100.

Patent Owner responds that the combination of Eisner and Proctor does not teach a communication link for coupling an input device to an analog hands-free jack of a mobile communication device for the transmission of analog audio signals. PO Resp. 46–48. Patent Owner argues that “[c]onverter 30 is the only way disclosed by Proctor for receiving card information from a card reader and converting it into a signal that can be transmitted by a mobile phone.” *Id.* at 47. According to Patent Owner, “Petitioner does not explain what type of communication link would be established from Eisner’s card reader to the Proctor phone, since the incorporation of Proctor’s converter into the phone would require that the reader somehow transmit the modem/landline signal to the converter inside

the phone.” *Id.* (citing Ex. 2004 ¶¶ 115–116). Patent Owner concludes that “[t]his connection is certainly not being made to an audio hands-free jack, since the signal has not yet been converted into any kind of analog audio signal suitable for a hands-free jack.” *Id.* at 47–48 (citing Ex. 2004 ¶ 116).

Patent Owner’s argument is not persuasive because it misinterprets Petitioner’s proposed combination. Petitioner does not propose transmitting Proctor’s modem signal to Proctor’s mobile phone. *See* Pet. 60–61; Ex. 1003 ¶ 100. Rather, Petitioner asserts that Eisner’s PRCTT transmits the DTMF signal to Proctor’s mobile phone. Pet. 60–61; Ex. 1003 ¶ 100. And, as discussed above, Eisner’s DTMF signal is suitable for transmission over a hands-free jack. Ex. 1001, 8:23–30; Ex. 1003 ¶ 48; Ex. 1041, 58:22–59:2; Ex. 2004 ¶ 35; Tr. 66:13–67:3. Thus, in the proposed combination, Eisner’s PRCTT includes a hands-free jack that is connected via a cable to the hands-free jack on Proctor’s mobile phone to form a communication link.⁶ Pet. 60–61, 65–66; Ex. 1003 ¶ 100.

Patent Owner also responds that “Petitioner does not explain the connectiveness between an[] RJ-11 output from Eisner’s card reader to whatever input device the phone has to have to receive modem or landline signals from Eisner and route them to the converter of Proctor.” PO Resp. 48. Patent Owner argues that there is “no evidence that the signals transmitted by the reader could be interpreted by the mobile phone and

⁶ Patent Owner argues that, for the Proctor embodiment where the converter is separate from the mobile phone (and thus located between Eisner’s PRCTT and Proctor’s mobile phone), there is “no *direct* communication link” from the PRCTT to the mobile phone’s hands-free jack. PO Resp. 48 n.6 (emphasis added). Patent Owner’s argument is not persuasive because claim 1 does not recite a *direct* communication link. Ex. 1001, 11:57–60.

directed to the circuitry identified as the converter without customization of the mobile phone's input interface.” *Id.* (citing Ex. 2004 ¶¶ 115–117).

Patent Owner's argument is not persuasive because it misinterprets Petitioner's proposed combination. Petitioner does not propose connecting Eisner's RJ-11 jack to Proctor's hands-free jack. *See* Pet. 60–61; Ex. 1003 ¶ 100. Rather, Petitioner asserts that Eisner's PRCTT transmits the DTMF signal “over a hands-free jack *instead* of an RJ-11 telephone jack.” Pet. 61; Ex. 1003 ¶ 100 (emphasis added). In other words, in the proposed combination, Eisner's PRCTT includes a hands-free jack that is connected via a cable to the hands-free jack on Proctor's mobile phone. Pet. 60–61, 65–66; Ex. 1003 ¶ 100. Patent Owner does not explain specifically why this combination would require customization to the input on Proctor's mobile phone. *See* PO Resp. 48.

Claim 1 also recites “wherein when said input device captures the card information, said controller converts the card information into said analog-audio-format signal and transmits said converted signal via said communication link to said mobile communication device.” Ex. 1001, 11:61–65. As discussed above, the Eisner and Proctor combination teaches a PRCTT that captures information from a credit card, converts the captured information to an analog audio signal, and transmits the signal over a hands-free jack to Proctor's mobile phone. Pet. 60–61, 63–66; Ex. 1003 ¶ 100; Ex. 1004 ¶¶ 8–10, Fig. 1; Ex. 1008, 4:27–40, 5:15–26, 5:34–36. Other than the arguments discussed above, Patent Owner does not dispute that the Eisner and Proctor combination teaches this limitation of claim 1.

Claim 1 also recites “wherein said mobile communication device automatically transmits the captured card information to the remote

transaction server and receives transaction validation information from said remote transaction server.” Ex. 1001, 11:66–12:3. Proctor teaches that the mobile phone automatically transmits the captured card information to a central verification facility and receives a transaction validation reply message. Pet. 30–31, 68; Ex. 1004 ¶¶ 16–17. As discussed in more detail below, it would have been obvious to a person of ordinary skill in the art to combine the cited teachings of Eisner and Proctor so that Eisner’s PRCTT connects to the hands-free jack on Proctor’s mobile phone, which automatically transmits the captured card information to the central verification facility. Pet. 60–61, 66–68; Ex. 1003 ¶ 100.

Patent Owner responds that Proctor does not teach that the mobile phone automatically transmits the captured card information to the remote transaction server. PO Resp. 25–27, 48–50; PO Sur-reply 14–15, 21–22. Patent Owner argues that “Proctor would require that the merchant *manually dial the mobile phone* to connect to the verification system.” PO Resp. 26 (citing Ex. 1004 ¶ 15; Ex. 2004 ¶¶ 67, 68, 114, 115); *see* PO Sur-reply 14–15. Patent Owner also argues that “at the time of the Proctor application it would not be practical to maintain an open phone connection to a remote server for a long and indeterminate period of time” because of “phone battery life” and “significant ‘per minute’ mobile phone charges.” PO Resp. 26 (citing Ex. 2004 ¶¶ 67–69).

Patent Owner’s argument is not persuasive. Claim 1 recites that the input device “transmits said converted signal . . . to said mobile communication device,” and the mobile communication device “automatically transmits the captured card information to the remote transaction server.” Ex. 1001, 11:61–12:3. Thus, claim 1 does not require

that the entire transaction between the input device and the remote transaction server be automatic. *See id.* Claim 1 only requires that after the mobile communication device receives the captured card information, the mobile communication device automatically transmits it to the transaction server. *Id.*

Proctor teaches the following:

The system operates as follows: A merchant having a system 14 wishes to accept a customer's credit card 48. If the merchant system's components are not set up, the merchant connects the components as shown. The phone 22 is activated, and the verification system number is dialed by the merchant. Other phone functions also may be conducted by using the device keyboard 44. [I]n any case, the terminal 36 is used to generate a communication for the center to receive. . . . The message generated in the terminal 36 is modulated to an audible stream of tones, which are transmitted to the converter 30. The converter converts this signal into a data stream in encoded format that is readily transmitted via digital cellular networks, as described in the incorporated reference. The phone then transmits this encoded stream to a receiver node on the network 12, which transmits the stream via the conventional telephone network to the facility 20.

Ex. 1004 ¶¶ 15–16. In other words, Proctor teaches that a merchant dials the verification system number as part of the “set up” prior to accepting a customer's credit card. *Id.* ¶ 15. But once Proctor's terminal captures the customer's card information and transmits it to the mobile phone, the mobile phone automatically transmits it to the central verification facility. *Id.* ¶ 16.

3. Claim 2

Claim 2 depends from claim 1, and recites “wherein said input device comprises a device selected from the group consisting of: an analog signal reader, a digital signal reader, a bar code reader, a magnetic stripe reader, an

integrated circuit reader, a smartcard reader, an EMV reader, an optical scanner and any combination thereof.” Ex. 1001, 12:4–10. Eisner teaches that the PRCTT includes a magnetic stripe reader. Pet. 63, 68–69; Ex. 1008, 4:27–40. Patent Owner does not dispute that the Eisner and Proctor combination teaches this limitation of claim 2.

4. *Claim 3*

Claim 3 depends from claim 1, and recites “wherein the transaction card is selected from the group consisting of: a debit card, a credit card, a cash card, a stored value card, an ATM card and any combination thereof.” Ex. 1001, 12:11–14. Eisner teaches that the transaction card is a credit card or a debit card. Pet. 63, 69; Ex. 1008, 4:27–40. Patent Owner does not dispute that the Eisner and Proctor combination teaches this limitation of claim 3.

5. *Claim 6*

Claim 6 depends from claim 1, and recites “wherein said communication link comprises a link selected from the group consisting of a cable, a wireless connection, an analog channel, a hands-free interface, a Blue tooth, a USB, a Wifi and any combination thereof.” Ex. 1001, 12:29–33. Proctor teaches that the communication link includes a cable and a hands-free interface. Pet. 65–66, 69–70; Ex. 1004 ¶¶ 8–10, Fig. 1. Patent Owner does not dispute that the Eisner and Proctor combination teaches this limitation of claim 6.

6. *Claim 12*

Claim 12 recites “[a] card reader device for reading a card having data stored on a magnetic stripe incorporated into the card.” Ex. 1001, 13:11–12. Eisner teaches a PRCTT that includes a card reader for reading a card having

data stored on a magnetic stripe incorporated into the card. Pet. 61–63, 70; Ex. 1008, 3:20–31, 4:19–40, Figs. 1, 2. Patent Owner does not dispute that the Eisner and Proctor combination teaches the preamble of claim 12.

Claim 12 recites “a read head for passing a magnetic stripe of a card by to read data stored on a magnetic stripe and for producing a signal indicative of data stored on a magnetic stripe, said read head including circuitry for converting said signal to an analog audio format suitable for transmission to a hands-free jack of a mobile communication device.” Ex. 1001, 13:14–19. Eisner teaches that the PRCTT includes a read head for passing a magnetic stripe of a card by to read data stored on a magnetic stripe and producing a signal indicative of the data. Pet. 63, 70; Ex. 1008, 4:27–40. Eisner teaches that the PRCTT includes an “Intel micro controller” that “converts” the signal “to analog tones corresponding to the twelve tones generated by a touchtone phone or other device conforming to the dual tone multi-frequency (DTMF) standard.” Pet. 63–64, 70–71; Ex. 1008, 5:15–26. The evidence of record indicates that a DTMF signal is an analog audio signal suitable for transmission to an analog hands-free jack of a mobile phone. Pet. 26 n.5; Ex. 1001, 8:23–30; Ex. 1003 ¶ 48; Ex. 1041, 58:22–59:2; Ex. 2004 ¶ 35; Tr. 66:13–67:3.

Proctor teaches a mobile phone with a “hands-free” jack. Pet. 64–65, 71; Ex. 1004 ¶ 8, Fig. 1. As discussed in more detail below, it would have been obvious to a person of ordinary skill in the art to combine the cited teachings of Eisner and Proctor so that Eisner’s PRCTT connects to the hands-free jack on Proctor’s mobile phone. Pet. 60–61; Ex. 1003 ¶ 100. Other than the arguments discussed above for claim 1, Patent Owner does

not dispute that the Eisner and Proctor combination teaches this limitation of claim 12. *See* PO Resp. 42–46.

Claim 12 recites “an output jack adapted to be inserted into a hands-free jack of said mobile communication device for providing said converted signal indicative of data stored on said magnetic stripe to said mobile communication device.” Ex. 1001, 13:20–23. Eisner teaches that the PRCTT outputs the DTMF signal to an RJ-11 jack or “any other suitable interface.” Pet. 63–64, 71; Ex. 1008, 5:34–36. Proctor teaches a cable that is inserted into the “hands-free” jack on the mobile phone. Pet. 65–66, 71; Ex. 1004 ¶¶ 8–10, Fig. 1. As discussed in more detail below, it would have been obvious to a person of ordinary skill in the art to combine the cited teachings of Eisner and Proctor so that Eisner’s PRCTT connects to the hands-free jack on Proctor’s mobile phone. Pet. 60–61; Ex. 1003 ¶ 100. Other than the arguments discussed above for claim 1, Patent Owner does not dispute that the Eisner and Proctor combination teaches this limitation of claim 12. *See* PO Resp. 42–46.

7. *Claim 18*

Claim 18 recites limitations similar to those discussed above for claims 1 and 12. Ex. 1001, 13:38–54. Petitioner relies on the same evidence discussed above for those limitations, which shows that the Eisner and Proctor combination teaches those limitations. Pet. 71–74. Patent Owner’s arguments regarding those limitations are not persuasive for the same reasons discussed above.

Claim 18 also recites that the card reader device is “portable.” Ex. 1001, 13:38–40. Eisner teaches that the PRCTT is portable. Pet. 57, 72; Ex. 1008, 5:48–49. For example, Eisner teaches that the PRCTT may

receive power from a battery pack. Ex. 1008, 5:48–49. And, as discussed in more detail below, it would have been obvious to a person of ordinary skill in the art to combine the cited teachings of Eisner and Proctor so that Eisner’s PRCTT connects to the hands-free jack on Proctor’s mobile phone. Pet. 60–61; Ex. 1003 ¶ 100.

Patent Owner responds that Eisner does not teach a portable card reader device.⁷ PO Resp. 50–51; PO Sur-reply 22. Patent Owner argues that “[a]ll diagrams depicting the physical context of the PRCTT . . . suggest that it is ***not intended as a portable device.***” PO Resp. 51 (citing Ex. 1008, Figs. 1, 2, 3a, 3b; Ex. 2004 ¶ 130). According to Patent Owner, Eisner’s PRCTT “must be physically connected to [a] telephone land line phone (i.e., plugged into a wall socket) as well as be physically wired to a network connection.” *Id.* (citing Ex. 2004 ¶¶ 129–130); *see* PO Sur-reply 22.

Patent Owner’s argument is not persuasive. First, Eisner teaches that the PRCTT may receive power “from a battery pack,” and, thus, the PRCTT has a means of power that could be supplied in a mobile setting. Pet. Reply 25; Ex. 1008, 5:48–49. Second, in the proposed combination of Eisner and Proctor, Eisner’s PRCTT connects to Proctor’s mobile phone instead of a landline phone or a hardwired network connection, thereby making the PRCTT portable. Pet. 60–61; Ex. 1003 ¶ 100.

⁷ Patent Owner also argues that Proctor does not teach a portable card reader device. PO Resp. 33–37, 51. Patent Owner’s argument is not persuasive. Proctor teaches that the card reader device can be used by merchants “at remote locations,” including “wandering food and souvenir vendors at stadium events.” Ex. 1004 ¶ 3. Patent Owner does not dispute that a card reader device for wandering food and souvenir vendors is portable. *See* PO Resp. 33–37, 51; PO Sur-reply 17–18; Tr. 67:19–69:16.

Claim 18 also recites providing the analog audio signal to the mobile communication device “for transmission to a transaction server for further processing.” Ex. 1001, 13:49–54. Proctor teaches that the mobile phone transmits the captured card information to a central verification facility and receives a transaction validation reply message. Pet. 30–31, 68, 73–74; Ex. 1004 ¶¶ 16–17. As discussed in more detail below, it would have been obvious to a person of ordinary skill in the art to combine the cited teachings of Eisner and Proctor so that Eisner’s PRCTT connects to the hands-free jack on Proctor’s mobile phone, which transmits the captured card information to the central verification facility. Pet. 60–61, 66–68; Ex. 1003 ¶ 100. Patent Owner does not dispute that the Eisner and Proctor combination teaches this limitation of claim 18.

8. *Claim 21*

Claim 21 depends from claim 18, and recites “wherein the output jack extends out of the housing.” Ex. 1001, 13:59–60. Proctor teaches that the output jack extends out of a housing. Pet. 74; Ex. 1004, Fig. 1. Patent Owner does not dispute that the Eisner and Proctor combination teaches this limitation of claim 21.

9. *Claim 22*

Claim 22 recites limitations similar to those discussed above for claims 1 and 12. Ex. 1001, 13:62–14:13. Petitioner relies on the same evidence discussed above for those limitations, which shows that the Eisner

and Proctor combination teaches those limitations.⁸ Pet. 74–77. Other than the arguments discussed above for claim 1, Patent Owner does not dispute that the Eisner and Proctor combination teaches the limitations of claim 22. *See* PO Resp. 42–46.

10. Claim 24

Claim 24 recites limitations similar to those discussed above for claims 1, 12, 18, and 22. Ex. 1001, 14:16–43. Petitioner relies on the same evidence discussed above for those limitations, which shows that the Eisner and Proctor combination teaches those limitations. Pet. 77–81. Patent Owner’s arguments regarding those limitations are not persuasive for the same reasons discussed above.

Claim 24 also recites providing the analog audio signal to the mobile communication device “for further processing by circuitry contained in said mobile communication device.” Ex. 1001, 14:37–41. Proctor teaches that the mobile phone transmits the captured card information to the central verification facility via a digital cellular network. Pet. 76–77, 80; Ex. 1004 ¶ 16. A person of ordinary skill in the art would understand that the mobile phone’s circuitry further processes the analog audio signal in order to transmit the captured card information to the central verification facility via a digital cellular network. Pet. 77, 80; Ex. 1003 ¶¶ 52–54; Ex. 1004 ¶ 8. Further, Proctor also teaches that the mobile phone may incorporate the

⁸ Patent Owner argues that Petitioner mistakenly analyzes an additional limitation that is not recited in claim 22, and, thus, the “Petition should be denied as to claim 22.” PO Resp. 38 n.5, 51 n.7. We disagree. The fact that Petitioner analyzes an additional limitation does not detract from Petitioner’s showing that the Eisner and Proctor combination teaches all the limitations of claim 22.

converter, which converts the captured card information to a format “that is readily transmitted via digital cellular networks.” Pet. 77, 80; Ex. 1004 ¶¶ 16, 18.

Patent Owner responds that Proctor does not teach further processing by circuitry in the mobile phone. PO Resp. 38–41, 51–52; PO Sur-reply 22. Patent Owner argues that “the limitation of ‘further processing’ is not merely relaying an encrypted signal or reformatting the signal for transmission to the transaction server.” PO Resp. 40. According to Patent Owner, “[i]t requires the recovery of the information from the audio signal into digital information as part of ‘further processing’ the information.” *Id.* at 40–41 (citing Ex. 2004 ¶ 88). Patent Owner contends that Proctor’s mobile phone “does not retrieve the card information from the audio signal,” but, rather, “simply takes the information it receives from the converter and relays it to the cellular network without further processing.” *Id.* at 41 (citing Ex. 2004 ¶ 89).

Patent Owner’s argument is not persuasive. First, as discussed above, we do not adopt Patent Owner’s construction of the term “further processing” that requires converting the analog audio signal back to binary data as stored on a transaction card. *See* Section II.C.2. Second, Proctor teaches that the mobile phone receives the captured card information as an *analog* audio signal via the hands-free jack, and then transmits the captured card information to the central verification facility via a *digital* cellular network. Ex. 1004 ¶¶ 8, 16. The evidence of record indicates that the mobile phone’s circuitry further processes the analog audio signal in order to transmit the captured card information via a digital cellular network. Ex. 1003 ¶¶ 52–54; Ex. 1004 ¶ 8. Third, Proctor also teaches that the mobile

phone may incorporate the converter, which converts the captured card information to a format “that is readily transmitted via digital cellular networks.” Ex. 1004 ¶¶ 16, 18.

11. Claim 26

Claim 26 recites limitations similar to those discussed above for claims 1 and 12. Ex. 1001, 14:46–59. Petitioner relies on the same evidence discussed above for those limitations, which shows that the Eisner and Proctor combination teaches those limitations. Pet. 81–82. Other than the arguments discussed above for claim 1, Patent Owner does not dispute that the Eisner and Proctor combination teaches the limitations of claim 26. *See* PO Resp. 42–46.

12. Claim 28

Claim 28 recites limitations similar to those discussed above for claims 1, 12, 18, and 24. Ex. 1001, 15:17–35. Petitioner relies on the same evidence discussed above for those limitations, which shows that the Eisner and Proctor combination teaches those limitations. Pet. 82–84. Patent Owner’s arguments regarding those limitations are not persuasive for the same reasons discussed above.

Claim 28 also recites that the mobile communication device has “a processor coupled to said hands-free jack for transmitting to remote servers signals corresponding to signals received by said hands-free jack.” Ex. 1001, 15:18–21. Proctor teaches that the mobile phone transmits the captured card information to the central verification facility via a digital cellular network. Pet. 76–77, 82–83; Ex. 1004 ¶ 16. A person of ordinary skill in the art would understand that the mobile phone includes a processor for transmitting the captured card information to the central verification

facility via a digital cellular network. Pet. 77, 80, 82–83; Ex. 1003 ¶¶ 52–54; Ex. 1004 ¶ 8. Other than the arguments discussed above for claim 24, Patent Owner does not dispute that the Eisner and Proctor combination teaches this limitation of claim 28. See PO Resp. 51–52.

13. Reasons for Combining Eisner and Proctor

Petitioner presents evidence that a person of ordinary skill in the art would have had reason to combine the cited teachings of Eisner and Proctor. Pet. 58–61 (citing Ex. 1003 ¶¶ 96–100). We agree with Petitioner’s rationale. Specifically, Eisner and Proctor relate to the same field of endeavor as the ’875 patent, namely, using a communication device for a commercial transaction. Pet. 16, 56; Ex. 1001, 1:17–18; Ex. 1004 ¶ 1; Ex. 1008, code (57). It would have been obvious to a person of ordinary skill in the art to combine the cited teachings of Eisner and Proctor so that Eisner’s PRCTT connects to the hands-free jack on Proctor’s mobile phone. Pet. 60–61; Ex. 1003 ¶ 100. Doing so would have been obvious because it would have “improve[d] Eisner’s device by adding wireless functionality and compatibility with cellular networks,” thereby allowing Eisner’s device to operate “in remote locations” where “there is no access to telephone lines.” Pet. 60–61; Ex. 1003 ¶ 100 (emphasis omitted). Further, because “hands-free jacks were well-known standard/universal connections,” a person of ordinary skill in the art would have had a reasonable expectation of success in combining Eisner’s PRCTT with the hands-free jack on Proctor’s mobile phone. Pet. 61; Ex. 1003 ¶ 100.

Patent Owner responds that Petitioner does not explain how a person of ordinary skill in the art would have combined the cited teachings of Eisner and Proctor. PO Resp. 54–55; PO Sur-reply 20–21, 24. In particular,

Patent Owner argues that Petitioner does not explain “how Proctor’s converter would physically connect to the systems disclosed in other references.” *Id.* at 55.

Patent Owner’s argument is not persuasive. As discussed above, Petitioner explains how a person of ordinary skill in the art would have combined Eisner and Proctor, namely, so that Eisner’s PRCTT connects to the hands-free jack on Proctor’s mobile phone. Ex. 1003 ¶ 100. For example, for the Proctor embodiment where the mobile phone incorporates the converter, Petitioner explains that Eisner’s PRCTT transmits the DTMF signal directly to the hands-free jack on Proctor’s mobile phone. Pet. 60 n.9; Ex. 1003, 84 n.20. Petitioner also explains that because “hands-free jacks were well-known standard/universal connections,” a person of ordinary skill in the art would have had a reasonable expectation of success in combining Eisner’s PRCTT with the hands-free jack on Proctor’s mobile phone. Ex. 1003 ¶ 100.

Patent Owner responds that Petitioner does not explain why a person of ordinary skill in the art would have been motivated to combine the cited teachings of Eisner and Proctor. PO Resp. 55–56; PO Sur-reply 20–21. Specifically, Patent Owner argues that “[i]t is not enough to show what a skilled artisan would have been able to do, rather than what a skilled artisan would have been motivated to do at the time of the invention.” *Id.* at 58–59.

Patent Owner’s argument is not persuasive. As discussed above, Petitioner explains why a person of ordinary skill in the art would have combined Eisner and Proctor, namely, because it would have “improve[d] Eisner’s device by adding wireless functionality and compatibility with cellular networks,” thereby allowing Eisner’s device to operate “in remote

locations” where “there is no access to telephone lines.” Ex. 1003 ¶ 100 (emphasis omitted).

Patent Owner responds that Petitioner’s proposed combination of Eisner and Proctor is inconsistent with the problem that the inventors of the ’875 patent sought to solve. PO Resp. 56–58. Patent Owner argues that “the inventors made clear that the point of their invention was to provide a point-of-sale technology that could be used as a ‘universal-to-all’ solution for anyone with a mobile phone.” *Id.* at 56 (citing Ex. 1022 ¶¶ 200, 400). Patent Owner contends that Petitioner relies on the Proctor embodiment where the mobile phone incorporates the converter, which “would require . . . a specialized communication device rather than a standard mobile phone. *Id.* at 56 (citing Ex. 1004 ¶ 18; Ex. 2004 ¶¶ 33, 36, 40–43, 64, 109, 110). Patent Owner concludes that a person of ordinary skill in the art “trying to solve the problem addressed by the ’875 patent . . . would not seek out a solution that would require a specialized communication device.” *Id.* at 58.

Patent Owner’s argument is not persuasive. First, the challenged claims recite “a mobile communication device.” *See, e.g.*, Ex. 1001, 11:55–56. The challenged claims do not, however, require a *standard* mobile phone. *See id.* Second, an obviousness analysis does not “look only to the problem the patentee was trying to solve.” *KSR*, 550 U.S. at 420. Rather, “[u]nder the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* As discussed above, Petitioner provides specific reasons why a person of ordinary skill in the art would have combined the cited teachings of Eisner

and Proctor. Ex. 1003 ¶ 100. Third, Patent Owner does not address specifically the Proctor embodiment where the converter is separate from the mobile phone. *See* Pet. 18 n.3, 60 n.9; PO Resp. 56–58.

14. Summary

For the foregoing reasons, Petitioner has shown by a preponderance of the evidence that claims 1–3, 6, 12, 18, 21, 22, 24, 26, and 28 would have been obvious over Eisner and Proctor.

E. Obviousness of Claims 14–16, 19, 20, 23, and 25 over Eisner, Proctor, and Hart

Petitioner argues that claims 14–16, 19, 20, 23, and 25 would have been obvious over Eisner, Proctor, and Hart. Pet. 85–90. For the reasons discussed below, Petitioner has shown by a preponderance of the evidence that claims 14–16, 19, 20, 23, and 25 would have been obvious over Eisner, Proctor, and Hart.

1. Overview of Hart

Hart teaches a magnetic stripe card reader. Ex. 1018, 1:15–18. Hart teaches that the magnetic stripe card reader includes a read head contained within a housing. *Id.* at 6:8–22, 6:52–55, Fig. 8.

2. Claims 14, 19, 23, and 25

Claim 14 depends from claim 12, and recites “wherein the read head is contained within a housing.” Ex. 1001, 13:27–28. Claims 19, 23, and 25 depend from claims 18, 22, and 24, respectively, and recite a similar limitation. *Id.* at 13:55–56, 14:14–15, 14:44–45. Hart teaches a read head contained within a housing. Pet. 86–87, 89–90; Ex. 1018, 6:52–55, Fig. 8. As discussed in more detail below, it would have been obvious to a person of ordinary skill in the art to combine the cited teachings of Hart with Eisner and Proctor so that Eisner’s read head is contained in Hart’s housing. Pet.

86; Ex. 1003 ¶ 107. Patent Owner does not dispute that the Eisner, Proctor, and Hart combination teaches this limitation of claims 14, 19, 23, and 25.

3. *Claim 15*

Claim 15 depends from claim 14, and recites “wherein the output jack extends out of the housing.” Ex. 1001, 13:29–30. Proctor teaches that the output jack extends out of the housing. Pet. 87–88; Ex. 1004, Fig. 1. Patent Owner does not dispute that the Eisner, Proctor, and Hart combination teaches this limitation of claim 15.

4. *Claims 16 and 20*

Claim 16 depends from claim 14, and recites “wherein the housing comprises a slot into which a card having a magnetic stripe may be inserted and swiped.” Ex. 1001, 13:31–33. Claim 20 depends from claim 19, and recites a similar limitation. *Id.* at 13:56–58. Eisner teaches that the card reader includes a slot into which a credit card with a magnetic stripe is inserted and swiped. Pet. 88; Ex. 1008, 4:28–37. Patent Owner does not dispute that the Eisner, Proctor, and Hart combination teaches this limitation of claims 16 and 20.

5. *Reasons for Combining Eisner, Proctor, and Hart*

Petitioner presents evidence that a person of ordinary skill in the art would have had reason to combine the cited teachings of Hart with Eisner and Proctor. Pet. 85–86 (citing Ex. 1003 ¶¶ 103–107). We agree with Petitioner’s rationale. Specifically, Hart relates to the same field of endeavor as the ’875 patent, namely, using a communication device for a commercial transaction. Pet. 85; Ex. 1001, 1:17–18; Ex. 1018, code (57), Fig. 1. It would have been obvious to a person of ordinary skill in the art to combine the cited teachings of Hart with Eisner and Proctor so that Eisner’s

read head is contained in Hart's housing. Pet. 86; Ex. 1003 ¶ 107. Doing so would have been obvious because "the benefits of providing housings for electronic components were universally well-known," namely, "housings have been used to keep components in place, to protect them from the elements, and to provide a shape or form for easy handling." Pet. 86; Ex. 1003 ¶ 107. Further, because "[p]roviding a housing for components is a basic design necessity," a person of ordinary skill in the art would have had a reasonable expectation of success in combining Eisner's read head with Hart's housing. Pet. 86; Ex. 1003 ¶ 107.

Patent Owner responds that Petitioner does not explain how a person of ordinary skill in the art would have combined the cited teachings of Hart with Eisner and Proctor. PO Resp. 54–55. Patent Owner's argument is not persuasive. As discussed above, Petitioner explains how a person of ordinary skill in the art would have combined Hart with Eisner and Proctor, namely, so that Eisner's read head is contained in Hart's housing. Ex. 1003 ¶ 107. Petitioner also explains that because "[p]roviding a housing for components is a basic design necessity," a person of ordinary skill in the art would have had a reasonable expectation of success in combining Eisner's read head with Hart's housing. *Id.*

Patent Owner responds that Petitioner does not explain why a person of ordinary skill in the art would have been motivated to combine the cited teachings of Hart with Eisner and Proctor. PO Resp. 55–56. Patent Owner's argument is not persuasive. As discussed above, Petitioner explains why a person of ordinary skill in the art would have combined Hart with Eisner and Proctor, namely, because "the benefits of providing housings for electronic components were universally well-known." Ex. 1003 ¶ 107.

6. *Summary*

For the foregoing reasons, Petitioner has shown by a preponderance of the evidence that claims 14–16, 19, 20, 23, and 25 would have been obvious over Eisner, Proctor, and Hart.

F. Other Asserted Grounds

Petitioner argues that claims 1–3 and 6 would have been obvious over Proctor and Vrotsos, and claims 12, 14–16, 18–26, and 28 would have been obvious over Proctor and Hart. Pet. 16–55. Because Petitioner has shown that the challenged claims are unpatentable based on the asserted grounds discussed above, we do not reach these additional asserted grounds. *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984) (“The Commission . . . is at perfect liberty to reach a ‘no violation’ determination on a single dispositive issue.”); *Boston Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App’x 984, 990 (Fed. Cir. 2020) (recognizing that “[t]he Board has the discretion to decline to decide additional instituted grounds once the petitioner has prevailed on all its challenged claims”).

G. Constitutionality

Patent Owner argues that “the appointment of Administrative Patent Judges (‘APJs’) of the Patent Trial and Appeal Board by the Secretary of Commerce . . . is not constitutional under the Appointments Clause.” PO Resp. 59–60. Patent Owner also argues that the Federal Circuit’s “attempted cure of the Constitutional violation” in *Arthrex, Inc. v. Smith & Nephew, Inc.*, 941 F.3d 1320 (Fed. Cir. 2019), “is insufficient, because it does not give a constitutionally appointed principal officer the power to review APJ decisions.” *Id.* at 60. We decline to consider Patent Owner’s constitutional

challenge as the Federal Circuit addressed this issue in *Arthrex*, 941 F.3d at 1325.

Patent Owner argues that “subjecting a patent effectively filed before September 16, 2012 (date AIA went into effect), as is the case here, to IPR is an impermissibly retroactive, unconstitutional taking” and “violates the Due Process Clause of the Fifth Amendment.” PO Resp. 60. We decline to consider Patent Owner’s constitutional challenge as the Federal Circuit addressed this issue in *Celgene Corp. v. Peter*, 931 F.3d 1342, 1362–63 (Fed. Cir. 2019).

III. CONCLUSION⁹

Petitioner has shown by a preponderance of the evidence that claims 1–3, 6, 12, 14–16, 18–26, and 28 of the ’875 patent are unpatentable.

In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–3, 6, 12, 18, 21, 22, 24, 26, 28	103	Eisner, Proctor	1–3, 6, 12, 18, 21, 22, 24, 26, 28	

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

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
14–16, 19, 20, 23, 25	103	Eisner, Proctor, Hart	14–16, 19, 20, 23, 25	
1–3, 6	103	Proctor, Vrotsos ¹⁰		
12, 14– 16, 18– 26, 28	103	Proctor, Hart ¹¹		
Overall Outcome			1–3, 6, 12, 14–16, 18–26, 28	

IV. ORDER

It is hereby

ORDERED that claims 1–3, 6, 12, 14–16, 18–26, and 28 of the '875 patent are shown unpatentable; *and*

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

¹⁰ We do not reach this asserted ground. *See* Section II.F.

¹¹ We do not reach this asserted ground. *See* Section II.F.

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