

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SQUARE, INC.,
Petitioner,

v.

4361423 CANADA INC.,
Patent Owner.

IPR2019-01650
Patent 9,311,637 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)
Denying Petitioner's Motion to Exclude
37 C.F.R. § 42.64(c)

I. INTRODUCTION

A. *Background and Summary*

Square, Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1–4 (“the challenged claims”) of U.S. Patent No. 9,311,637 B2 (Ex. 1001, “the ’637 patent”). 4361423 Canada Inc. (“Patent Owner”) filed a Preliminary Response (Paper 8, “Prelim. Resp.”) to the Petition. We instituted an *inter partes* review of the challenged claims on April 28, 2020. Paper 11 (“Dec. on Inst.”), 21. After institution, Patent Owner filed a Response (Paper 23, “PO Resp.”) to the Petition, Petitioner filed a Reply (Paper 31, “Pet. Reply”) to the Response, and Patent Owner filed a Sur-reply (Paper 32, “PO Sur-reply”) to the Reply. We held an oral hearing on January 28, 2021, and a transcript of the hearing is included in the record. Paper 41 (“Tr.”).

For the reasons set forth below, Petitioner has shown by a preponderance of the evidence that claims 1–4 of the ’637 patent are unpatentable.

B. *Real Parties in Interest*

Each party identifies itself as the only real party in interest. Pet. 1; Paper 4, 2.

C. *Related Matters*

The parties indicate that the ’637 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. 1; Paper 4, 2.

D. *The ’637 Patent*

The ’637 patent relates to an apparatus, system, and method “for commercial transactions using a transaction card via a communication

device.” Ex. 1001, 2:25–35. Specifically, the ’637 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 5:60–64, 6:7–10. Figure 2 is reproduced below.

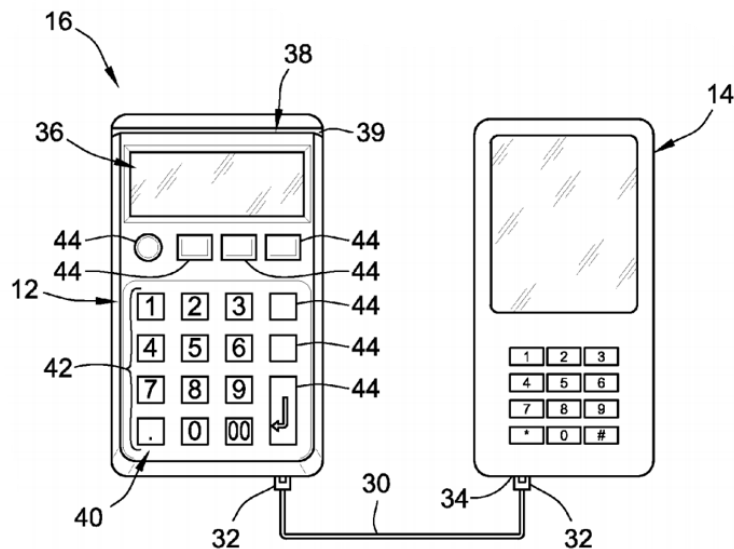


FIG. 2

Id. at Fig. 2. Figure 2 shows an example of a transaction and communication assembly. *Id.* at 7:28–33. 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 7:40–43. The ’637 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 7:51–52, 7:65–8:1. The MCU converts the information into an analog audio signal and transmits it via cable 30 to mobile phone 14. *Id.* at 8:7–13. Mobile phone 14 then transmits the information to a transaction server. *Id.* at 8:14–15. The transaction server

responds to mobile phone 14 by indicating whether a processor/issuer accepts or rejects the transaction. *Id.* at 8:15–27.

E. Illustrative Claim

Of the challenged claims, claims 1 and 3 are independent. Claim 1 is reproduced below.

1. A portable smart card reader device for reading a smart card having recorded information stored on an integrated circuit incorporated into the card, the device comprising:

a sensor for reading said recorded information stored on said integrated circuit incorporated into said card and for producing an analog signal indicative of the recorded information, said sensor including circuitry for converting said analog signal to an encrypted signal suitable for transmission to a jack of a mobile communication device; and

an output jack adapted to be inserted into a jack associated with said mobile communication device for providing the encrypted signal indicative of the recorded information to said mobile communication device for transmission to a transaction server for further processing.

Id. at 12:6–20.

F. Evidence

Petitioner submits, *inter alia*, the following evidence:

Evidence	Exhibit No.
Declaration of Bruce McNair (“McNair Declaration”)	1003
Proctor, US 2002/0091633 A1, published July 11, 2002 (“Proctor”)	1007
Vrotsos, US 2005/0236480 A1, published Oct. 27, 2005 (“Vrotsos”)	1009
Morley, US 7,810,729 B2, issued Oct. 12, 2010 (“Morley”)	1010
Colnot, US 2007/0067833 A1, published Mar. 22, 2007 (“Colnot”)	1011
Eisner, US 5,838,773, issued Nov. 17, 1998 (“Eisner”)	1012

Evidence	Exhibit No.
Second Declaration of Bruce McNair (“McNair Second Declaration”)	1022

Patent Owner submits, *inter alia*, the Declaration of Ivan Zatkovich (Ex. 2006, “Zatkovich Declaration”), and the Second Declaration of Ivan Zatkovich (Ex. 2007, “Zatkovich Second 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
1–4	103 ¹	Proctor, Vrotsos
1–4	103	Colnot, Vrotsos
1–4	103	Eisner, Vrotsos, Proctor
1–4	103	Proctor, Vrotsos, Morley

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 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;

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 ’637 patent has an effective filing date before the effective date of the relevant amendment, the pre-AIA version of § 103 applies.

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 argues that a person of ordinary skill in the art (“POSITA”) would have had “[(1)] a Bachelor of Science in Electrical Engineering or Computer Engineering, or the equivalent and [(2)] . . . 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.” Pet. 15 (citing Ex. 1003 ¶¶ 13–17). According to Petitioner, “[l]ess work experience may be compensated by a higher level of education, such as a Master’s Degree, and vice versa.” *Id.* (citing Ex. 1003 ¶¶ 13–17). 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 ¶¶ 13–17. Patent Owner’s declarant, Mr. Ivan Zatkovich, agrees with Petitioner’s description. Ex. 2006 ¶ 15; Ex. 2007 ¶ 14. Therefore, we adopt Petitioner’s description except that we 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 in a civil action under 35 U.S.C. § 282(b), 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

Patent Owner contends that the term "portable" requires "a means of power that could be supplied in a mobile setting." PO Resp. 12. Patent Owner argues that the '637 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.* According to Patent Owner, a person of ordinary skill in the art also would understand "that portability would require that a device cannot rely on fixed, non-portable connections for communication." *Id.* at 12–13 (citing Ex. 2007 ¶ 36). Petitioner disagrees with Patent Owner's interpretation, asserting that it is "unduly narrow." Pet. Reply 2.

As discussed below, even if we assume that the term "portable" requires a means of power and a communication connection that could be supplied in a mobile setting, the asserted prior art nonetheless teaches such a portable device. *See* Section II.D.2. 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. 27. Patent Owner cites to a portion of the '637 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 26–27 (citing Ex. 1001, 10:61–65). Patent Owner contends this disclosure “shows” that “the limitation of ‘further processing’” is not merely “relay[ing], reformat[ing], or repack[ing]” a signal for a cellular network. *Id.* at 27.

Petitioner disagrees with Patent Owner’s interpretation. Pet. Reply 8–10. Petitioner argues that “[t]he plain language of claim 3 does not require the *further processing* to be any specific type of processing.” *Id.* at 9. Petitioner also argues that Patent Owner’s declarant, Mr. Zatkovich, “admits that simple audio-to-digital conversion (for relaying of information from the mobile phone’s jack to the cellular network) . . . is *further processing*.” *Id.* (citing Ex. 1021, 153:16–19).

Claim 3 recites “providing said encrypted analog signal indicative of the recorded information stored on the integrated circuit to said mobile communication device for further processing by circuitry contained in said mobile communication device.”² Ex. 1001, 12:38–42. Thus, the claim language does not require that the mobile communication device perform a specific type of processing. *See id.*

As discussed above, Patent Owner identifies one embodiment of the ’637 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 10:34–36, 10:61–65. But the ’637 patent describes other embodiments. For example, the ’637 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,”

² Claim 3 is the only challenged claim that recites the phrase “further processing by circuitry contained in said mobile communication device.”

and sends the encoded audio signal to the transaction server. *Id.* at 10:12–19. 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.*

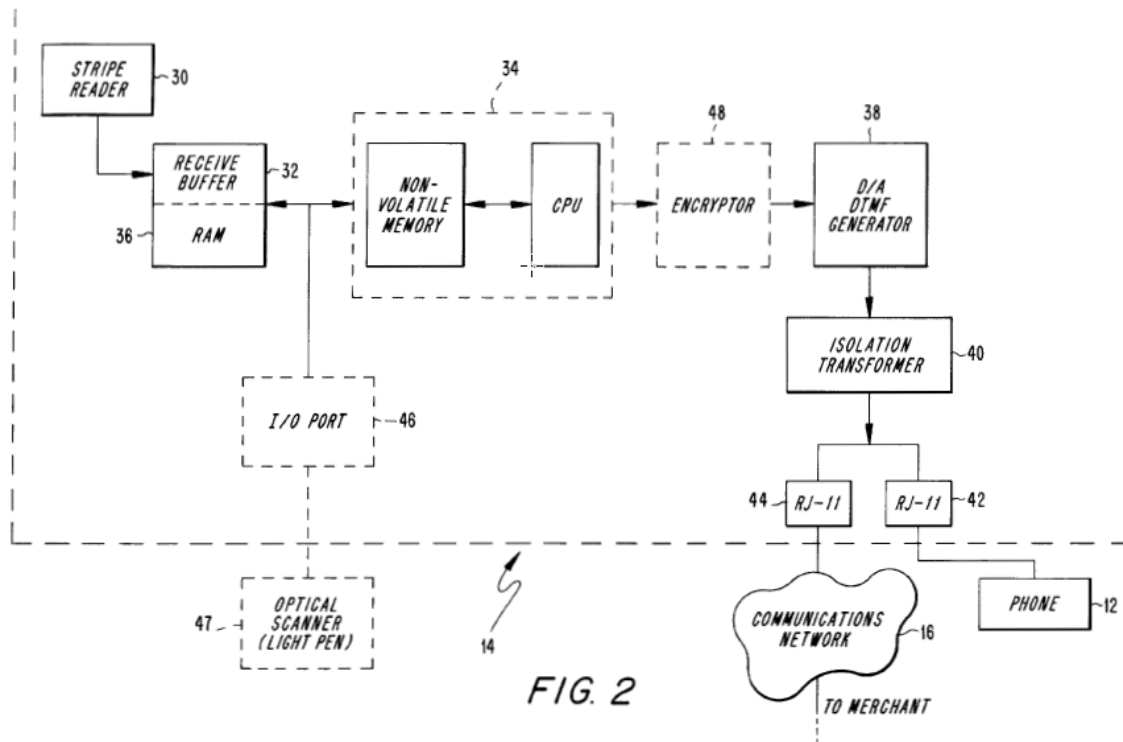
Because, for the reasons discussed above, Patent Owner’s interpretation is not consistent with the scope of the claim language and the written description, we decline to adopt it. No further construction of the phrase “further processing by circuitry contained in said mobile communication device” is necessary to resolve the parties’ disputes about the asserted grounds of unpatentability. *See* Section II.D.4.

D. Obviousness of Claims 1–4 over Eisner, Vrotsos, and Proctor

Petitioner argues that claims 1–4 would have been obvious over Eisner, Vrotsos, and Proctor. Pet. 53–65. For the reasons discussed below, Petitioner has shown by a preponderance of the evidence that claims 1–4 would have been obvious over Eisner, Vrotsos, and Proctor.

1. Overview of Eisner, Vrotsos, and Proctor

Eisner teaches a secure electronic financial transaction system. Ex. 1012, 1:10–16. Eisner’s Figure 2 is reproduced below.



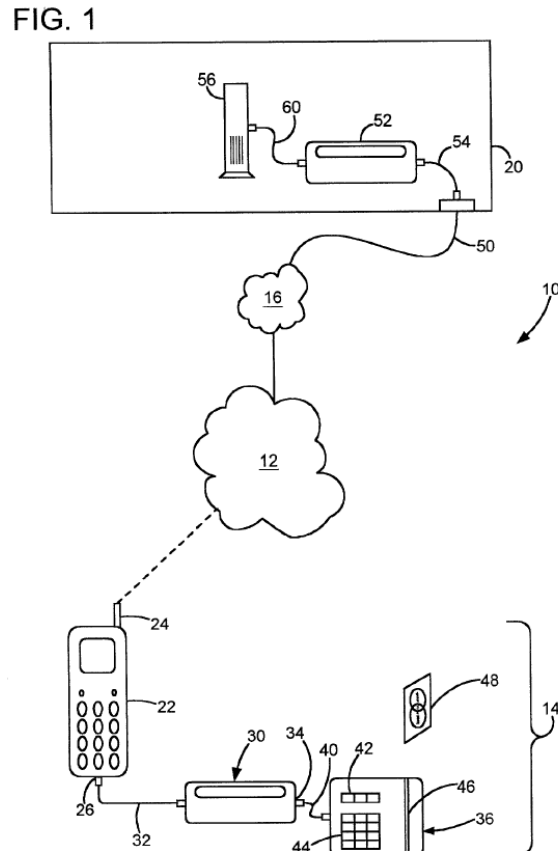
Id. at Fig. 2. Figure 2 is a block diagram of personal reader capture transfer technology unit (“PRCTT”) 14. *Id.* at 3:4–6, 4:20–26. PRCTT 14 includes magnetic stripe reader 30, single chip computer 34, digital to analog dual tone multi-frequency (“DTMF”) tone generator 38, telephone-in jack 42, and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

Vrotsos teaches an attachment that is coupled to a wireless communication device, such as a cellular phone, to perform a commercial transaction. Ex. 1009, code (57), Fig. 1D. Vrotsos teaches that the

attachment includes a smart card read/write head for reading information stored on a smartchip in the smart card. *Id.* ¶ 41, Fig. 1E.

Proctor teaches a financial transaction verification system that uses a wireless or cellular network. Ex. 1007 ¶ 7. Proctor's Figure 1 is reproduced below.



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] portable smart card reader device for reading a smart card having recorded information stored on an integrated circuit incorporated into the card.”³ Ex. 1001, 12:6–8. We agree with Petitioner’s arguments and evidence regarding the preamble. Eisner teaches a PRCTT that is a portable device for reading a smart card having information stored on an integrated circuit incorporated into the smart card. Pet. 53–55; Ex. 1003 ¶ 178; Ex. 1012, 4:27–40, 7:52–59, Fig. 2. Alternatively, Vrotsos teaches a portable device with a smart card read/write head for reading information stored on a smartchip incorporated into the smart card. Pet. 18–20, 55; Ex. 1009 ¶¶ 36, 41, Figs. 1D, 1E. Further, Proctor teaches connecting a card reader device to a mobile phone’s “hands-free” jack. Pet. 61; Ex. 1007 ¶ 8, Fig. 1. As discussed in more detail below, it would

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

have been obvious to a person of ordinary skill in the art to combine the cited teachings of Eisner, Vrotsos, and Proctor so that Eisner's PRCTT is a portable smart card reader device. Pet. 55, 62; Ex. 1003 ¶¶ 179, 191.

Patent Owner responds that Eisner does not teach a portable card reader device. PO Resp. 38. Patent Owner argues that "all diagrams depicting the physical context of the PRCTT . . . suggest that it is **not intended as a portable device**." *Id.* (citing Ex. 1012, Figs. 1, 2, 3a, 3b). 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. 2007 ¶¶ 141–142).

Patent Owner's argument is unavailing. Even if the term "portable" requires a means of power and a communication connection that could be supplied in a mobile setting, the asserted prior art teaches such a device. Specifically, 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 13 n.9; Ex. 1012, 5:48–49. Alternatively, Vrotsos teaches a card reader with a means of power that could be supplied in a mobile setting, and it would have been obvious to a person of ordinary skill in the art to combine Eisner and Proctor so that Eisner's PRCTT is portable. Ex. 1003 ¶ 179; Ex. 1009 ¶ 36, Fig. 1D. Further, as discussed in more detail below, it would have been obvious to combine the cited teachings of Eisner, Vrotsos, and Proctor so that Eisner's PRCTT connects to Proctor's mobile phone instead of a landline phone or a hardwired network connection. Pet. 62; Ex. 1003 ¶ 191.

Patent Owner further responds that Eisner does not teach a smart card reader device. PO Resp. 38–40; PO Sur-reply 16–17. Patent Owner argues that although Eisner mentions that a smart card may be used, Eisner’s “explanation . . . is limited to a magnetic stripe reader.” PO Resp. 39 (citing Ex. 2007 ¶¶ 145–146). According to Patent Owner, Eisner “offers no information regarding how . . . a smart card reader would operate.” *Id.* (citing Ex. 2007 ¶ 145); see PO Sur-reply 16.

Patent Owner’s argument is not persuasive. Eisner teaches the following:

The present invention has been described wherein the information for card authorization has been initially derived from the magnetic stripe of standardized financial transaction cards. It should be understood that other technologies such as IC cards, sometimes referred to as *smart cards*, which may contain the same information as the magnetic stripe, but in an integrated circuit, may also be used, although, the card reader would be necessarily different.

Ex. 1012, 7:52–59 (emphasis added). Although Eisner does not teach specifically how a smart card reader operates, the evidence of record indicates that smart card readers were well known by 2009. Pet. Reply 3, 14; Ex. 1021, 69:18–70:4, 91:8–10. Thus, a person of ordinary skill in the art would have known how to implement Eisner’s PRCTT as a smart card reader device. Pet. Reply 14; Ex. 1022 ¶¶ 35–37.

Alternatively, Patent Owner’s argument is not persuasive because it addresses Eisner individually, not the proposed combination of Eisner, Vrotsos, and Proctor. See *Keller*, 642 F.2d at 426. Vrotsos teaches a smart card reader device, and, as discussed in more detail below, it would have been obvious to a person of ordinary skill in the art to combine Eisner and

Vrotsos so that Eisner's PRCTT is a smart card reader device. Ex. 1003 ¶ 179; Ex. 1009 ¶ 41, Fig. 1E.

Patent Owner also responds that Vrotsos does not teach a smart card reader device. PO Resp. 17–21, 39–40; PO Sur-reply 7–8, 16. Patent Owner argues that Vrotsos's "read/write 'head' refers to a magnetic read head used for magnetic tape" and "would not be compatible with a sensor required to read an integrated circuit within a smart card." PO Resp. 18 (citing Ex. 2007 ¶¶ 49–50); *see* PO Sur-reply 7. Patent Owner asserts that Vrotsos's "mention of a smart card can only refer to [a Europay, MasterCard, and Visa ('EMV')] type smart card," which "would require a sensor to access the contact pad of the IC chip." PO Resp. 18–19 (citing Ex. 1009 ¶ 41; Ex. 2007 ¶¶ 51–52). But, according to Patent Owner, Vrotsos "provides no disclosure of a sensor for reading this type of smart card." *Id.* at 19 (citing Ex. 2007 ¶ 52). Patent Owner contends that Vrotsos's Figure 2(a) shows a reader that "is only applicable to reading a magnetic stripe." *Id.* at 19–20 (citing Ex. 1009, Fig. 2(a); Ex. 2007 ¶ 53); *see* PO Sur-reply 7.

Patent Owner's argument is unavailing. Vrotsos is not limited to a read/write head that reads a magnetic stripe. *See* Ex. 1009 ¶ 41. Rather, Vrotsos teaches "a combined magnetic stripe reader *and* smartcard reader." *Id.* (emphasis added). Vrotsos's Figure 1E is reproduced below.

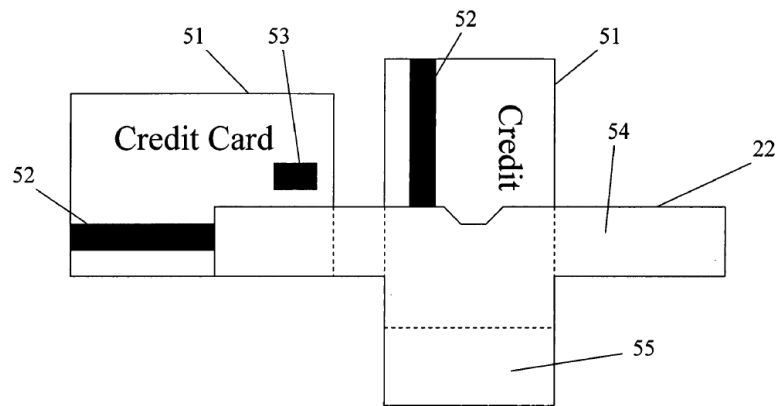


FIGURE 1E

Id. at Fig. 1E. Figure 1E shows slot 22 for the combined magnetic stripe reader and smartcard reader. *Id.* ¶ 41. Vrotsos teaches that “[a] *magnetic stripe* reader head may be located within a surface of the shallow channel portion 54 so that the *magnetic stripe* 52 can be read as the card 51 is swiped through the shallow channel portion 54.” *Id.* (emphasis added). Vrotsos separately teaches that “[a] *smartcard* read/write head may be positioned within a surface of the deeper channel portion 55 of the slot 22 so that information may be read from or written to the *smartchip* 53 when the card is positioned within the deeper channel portion 55.” *Id.* (emphasis added). Thus, contrary to Patent Owner’s argument, Vrotsos expressly teaches a smart card reader device.

Claim 1 recites “a sensor for reading said recorded information stored on said integrated circuit incorporated into said card.” Ex. 1001, 12:9–10. We agree with Petitioner’s arguments and evidence regarding this limitation. Eisner teaches that the PRCTT includes a sensor for reading the information stored on an integrated circuit incorporated into a smart card. Pet. 57–59; Ex. 1003 ¶ 178; Ex. 1012, 4:27–40, 7:52–59, Fig. 2. Alternatively, Vrotsos

teaches a smart card read/write head for reading the information stored on a smartchip incorporated into a smart card. Pet. 23, 59; Ex. 1009 ¶ 41, Fig. 1E. 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 Vrotsos so that Eisner's PRCTT includes Vrotsos's smart card read/write head. Pet. 55; Ex. 1003 ¶ 180.

Patent Owner responds that Eisner does not teach a sensor for reading the information stored on an integrated circuit in a smart card. PO Resp. 40–41; PO Sur-reply 16–17. Patent Owner argues that although Eisner mentions that a smart card may be used, Eisner “contains no disclosure regarding what [a smart card] sensor would be or how it would operate.” PO Resp. 41 (citing Ex. 2007 ¶¶ 151–153).

Patent Owner's argument is not persuasive. As discussed above, although Eisner does not teach specifically how a smart card reader operates, a person of ordinary skill in the art would have known how to implement a smart card reader with a sensor for reading information stored on an integrated circuit in a smart card. Ex. 1021, 69:18-70:4, 91:8-10; Ex. 1022 ¶¶ 35–37. Alternatively, we are not persuaded by Patent Owner's argument because it addresses Eisner individually, not the proposed combination of Eisner, Vrotsos, and Proctor. *See Keller*, 642 F.2d at 426. Vrotsos teaches a smart card read/write head for reading the information stored on a smartchip incorporated into a smart card, and, as discussed in more detail below, it would have been obvious to a person of ordinary skill in the art to combine Eisner and Vrotsos so that Eisner's PRCTT includes Vrotsos's smart card read/write head. Ex. 1003 ¶ 180; Ex. 1009 ¶ 41, Fig. 1E.

Patent Owner further contends that Vrotsos does not teach a sensor for reading the information stored on an integrated circuit in a smart card. PO Resp. 40; PO Sur-reply 16. Patent Owner relies on the same argument discussed above for the preamble. PO Resp. 17–21, 39–40. Patent Owner’s argument is unavailing for the same reasons discussed above.

Claim 1 recites a sensor “for producing an analog signal indicative of the recorded information, said sensor including circuitry for converting said analog signal to an encrypted signal suitable for transmission to a jack of a mobile communication device.” Ex. 1001, 12:10–15. We agree with Petitioner’s arguments and evidence regarding this limitation. Eisner teaches that the PRCTT includes an encryptor that encrypts the recorded information and a DTMF generator that “converts” the encrypted signal “to analog tones corresponding to the twelve tones generated by a touch tone phone or other device conforming to the dual tone multi-frequency (DTMF) standard.” Pet. 59–61; Ex. 1012, 5:15–26, 5:46–47, Fig. 2. The evidence of record indicates that a DTMF signal is an analog signal suitable for transmission to a hands-free jack of a mobile phone. Pet. 26; Ex. 1001, 8:33–40; Ex. 1003 ¶¶ 103–104; Ex. 1021, 58:22–59:2; Tr. 55:1–10. Proctor teaches a mobile phone with a “hands-free” jack. Pet. 61; Ex. 1007 ¶ 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.⁴ Pet. 62; Ex. 1003 ¶ 191.

Patent Owner responds that Eisner does not teach converting the analog signal to an encrypted signal. PO Resp. 41–42; PO Sur-reply 17. Patent Owner argues that “Eisner's encryptor 48 is intended for processing unencrypted magstripe information—not the already-encrypted information from a smart card IC—and would have no role in the processing of smartcard IC chip data.” PO Resp. 42 (citing Ex. 2007 ¶¶ 159–160). According to Patent Owner, “Eisner discloses no method to receive or decrypt the pre-encrypted information on a smart card IC chip.” *Id.* (citing Ex. 2007 ¶ 160).

Patent Owner's argument is not persuasive. As discussed above, Eisner teaches that the PRCTT may be used to read information stored on a smart card. Ex. 1012, 7:52–59. Thus, a person of ordinary skill in the art would have understood that the PRCTT's encryptor can be used to encrypt information from a smart card, not just a magnetic stripe card. Pet. Reply 15; Ex. 1022 ¶ 40. Further, even if the information stored on a smart card is pre-encrypted, a person of ordinary skill in the art would have known that

⁴ Because the evidence of record indicates that Eisner's DTMF signal is suitable for transmission over a hands-free jack, a person of ordinary skill in the art would have known that Eisner's PRCTT can connect to the hands-free jack on Proctor's mobile phone without using Proctor's converter. *See, e.g.*, Ex. 1003 ¶ 193 (“[A] POSITA would have known to transmit Eisner's DTMF signals over the jack of the mobile phone.”).

the information can be encrypted again by the PRCTT's encryptor.⁵

Ex. 1022 ¶ 40.

Patent Owner responds that Eisner does not teach converting the analog signal to a format suitable for transmission to a jack of a mobile communication device. PO Resp. 42–48; PO Sur-reply 17–18. Patent Owner argues that Eisner teaches an isolation transformer that conditions a signal for output on an RJ-11 jack. PO Resp. 43–44 (citing Ex. 2007 ¶¶ 163–165, 173). Thus, according to Patent Owner, Eisner's output "would not be compatible" with the hands-free jack on Proctor's mobile phone. *Id.* at 44; see PO Sur-reply 17. 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." PO Resp. 44 (citing Ex. 2007 ¶¶ 166–172).

Patent Owner's argument is unavailing. 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. 1012, 5:34–36. And, as discussed above, Eisner's DTMF signal is suitable for transmission over a hands-free jack. Ex. 1001, 8:33–40; Ex. 1003 ¶¶ 103–104; Ex. 1012, 5:15–26; Ex. 1021, 58:22–59:2; Tr. 55:1–10. 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

⁵ To the extent Patent Owner argues that claim 1 does not require the sensor to encrypt the information stored on a smart card because the information is pre-encrypted, Eisner teaches that the PRCTT's encryptor is optional. Ex. 1012, 5:46–47 ("an encryptor 48 *may* be used") (emphasis added).

would have known how to incorporate that conditioning into Eisner's PRCTT. Pet. 63; Ex. 1003 ¶ 193; Ex. 1021, 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. 61–63; Ex. 1003 ¶ 193. Rather, Petitioner asserts that Eisner's PRCTT transmits the DTMF signal “over a mobile phone jack *instead* of an RJ-11 telephone jack.”⁶ Pet. 63; Ex. 1003 ¶ 193 (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. 63; Ex. 1003 ¶ 193.

Patent Owner further responds that “Eisner's DTMF signal could not be converted by Proctor's converter 30 before the signal is passed along to the mobile phone.”⁷ PO Resp. 44; see PO Sur-reply 17. Patent Owner argues that Proctor's converter “accept[s] modem signals and then produce[s] (not receive[s]) DTMF signals.” PO Resp. 44–45 (citing Ex.

⁶ 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 at 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. 63; Ex. 1003 ¶ 193. 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.”).

⁷ Patent Owner also responds that Eisner's DTMF generator could not be replaced with Proctor's converter. PO Resp. 46–48. Because, for the reasons discussed herein, the Eisner, Vrotsos, and Proctor combination teaches the disputed limitation without replacing Eisner's DTMF generator, we need not resolve Patent Owner's argument.

2007 ¶¶ 175–184) (emphasis omitted); see PO Sur-reply 17. 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.” PO Resp. 45 (citing Ex. 2007 ¶ 178); see PO Sur-reply 17–18.

Patent Owner’s argument is unavailing. The Eisner, Vrotsos, and Proctor combination teaches the disputed claim limitation without Proctor’s converter. As discussed above, Eisner’s DTMF signal is suitable for transmission over a hands-free jack. Ex. 1001, 8:33–40; Ex. 1003 ¶¶ 103–104; Ex. 1012, 5:15–26; Ex. 1021, 58:22–59:2; Tr. 55:1–10. As a result, a person of ordinary skill in the art would have known that Eisner’s PRCTT can connect to the hands-free jack on Proctor’s mobile phone without using Proctor’s converter. See, e.g., Ex. 1003 ¶ 193 (“[A] POSITA would have known to transmit Eisner’s DTMF signals over the jack of the mobile phone.”). 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. Ex. 1003 ¶ 193; Ex. 1021, 42:6–43:16.

Alternatively, even if the proposed combination incorporates Proctor’s converter into Eisner’s PRCTT, we disagree with Patent Owner’s assertion that Proctor’s converter simply accepts a modem signal and produces a DTMF signal. See Ex. 1007 ¶¶ 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.” (Ex. 1008, “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. 1008, 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 according to the appropriate standard for the cellular network. Ex. 1007 ¶¶ 9, 16; Ex. 1008, 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.⁸

Patent Owner additionally responds that Proctor does not teach converting the analog signal to a format suitable for transmission to a jack of a mobile communication device. PO Resp. 43–44. Patent Owner argues that Petitioner “relies on Proctor for this function,” but Petitioner “never establishes how Proctor’s modulated tonal signal would constitute a format suitable for transmission to a mobile phone jack.” *Id.* (citing Ex. 2007 ¶ 165).

We are not persuaded by Patent Owner’s argument because Petitioner does not rely solely on Proctor for this limitation. *See* Pet. 59–61. Petitioner relies on Eisner for this limitation, and, as discussed above, Eisner’s PRCTT includes a DTMF generator that converts information to a DTMF signal that

⁸ Patent Owner argues that even if “Proctor could take a DTMF signal and make it suitable for a hands-free jack, there is nothing supporting the conversion of an RJ-11 signal to a signal for a hands[-]free jack.” PO Resp. 46. We disagree. Patent Owner’s declarant, Mr. Zatkovich, acknowledges that Proctor’s converter can convert a signal received from an RJ-11 jack to a signal suitable for a hands-free jack. Ex. 1021, 53:3–4, 56:21–57:4.

is suitable for transmission to a hands-free jack of a mobile phone.

Ex. 1001, 8:33–40; Ex. 1003 ¶¶ 103–104; Ex. 1012, 5:15–26; Ex. 1021, 58:22–59:2; Tr. 55:1–10. 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. Pet. 63; Ex. 1003 ¶ 193.

Claim 1 recites “an output jack adapted to be inserted into a jack associated with said mobile communication device for providing the encrypted signal indicative of the recorded information to said mobile communication device.” Ex. 1001, 12:16–19. We agree with Petitioner’s arguments and evidence regarding this limitation. Eisner teaches that the PRCTT outputs a DTMF signal to an RJ-11 jack or “any other suitable interface.” Pet. 60–61; Ex. 1008, 5:34–36. Proctor teaches a cable that is inserted into the “hands-free” jack on the mobile phone. Pet. 28–29, 63; Ex. 1007 ¶¶ 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. 62; Ex. 1003 ¶ 191. Other than the arguments discussed above, Patent Owner does not dispute that the Eisner, Vrotsos, and Proctor combination teaches this limitation of claim 1.

Claim 1 recites providing the encrypted signal to said mobile communication device “for transmission to a transaction server for further processing.” Ex. 1001, 12:19–20. We agree with Petitioner’s arguments and evidence regarding this limitation. Proctor teaches that the mobile phone transmits the converted signal to a central verification facility and receives a transaction validation reply message. Pet. 32–33, 63; Ex. 1007 ¶¶ 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 converted signal to the central verification facility. Pet. 62; Ex. 1003 ¶ 191. Other than the arguments discussed above, Patent Owner does not dispute that the Eisner, Vrotsos, and Proctor combination teaches this limitation of claim 1.

3. *Claim 2*

Claim 2 depends from claim 1, and recites "the smart card is selected from a group consisting of a chip card, EMV card, proximity detector or NFC card, contactless card, or any combination thereof." Ex. 1001, 12:21–24. We agree with Petitioner's arguments and evidence regarding this limitation. Eisner teaches that the smart card is a chip card. Pet. 64; Ex. 1012, 7:52–59. Vrotsos also teaches that the smart card is a chip card. Pet. 33, 64; Ex. 1009 ¶ 41.

Patent Owner responds that because Eisner does not teach a smart card reader device, Eisner also does not teach a chip card. PO Resp. 48. Patent Owner argues that Eisner "mention[s] 'smart cards' but also stat[es] that readers for this type of smart card would be 'necessarily different.'" *Id.* (citing Ex. 1012, 7:55–59). According to Patent Owner, "the bare mention of a reader that would be 'necessarily different' (and nothing more)[] does not disclose a smart card reader device." *Id.* (citing Ex. 2007 ¶¶ 187–189).

Patent Owner's argument is unavailing. Although Eisner does not teach specifically how a smart card reader operates, the evidence of record indicates that a person of ordinary skill in the art would have known how to implement a smart card reader for reading information stored on a chip card. Ex. 1012, 7:52–59; Ex. 1021, 69:18–70:4, 91:8–10; Ex. 1022 ¶¶ 35–37. In

addition, we are not persuaded by Patent Owner's argument because it addresses Eisner individually, not the combination of Eisner, Vrotsos, and Proctor. *See Keller*, 642 F.2d at 426. As discussed above, Vrotsos also teaches that the smart card is a chip card. Ex. 1009 ¶ 41.

4. *Claim 3*

Claim 3 recites limitations similar to those discussed above for claim 1. Ex. 1001, 12:25–44. Petitioner relies on the same evidence discussed above for those limitations, which shows that the Eisner, Vrotsos, and Proctor combination teaches those limitations. Pet. 64–65. Patent Owner's arguments regarding those limitations are not persuasive for the same reasons discussed above. *See* Section II.D.2.

Claim 3 also recites providing the encrypted signal to the mobile communication device “for further processing by circuitry contained in said mobile communication device.” Ex. 1001, 12:40–42. We agree with Petitioner's arguments and evidence regarding this limitation. Proctor teaches that the mobile phone “includes circuitry that encodes vocal communications digitally, in a highly compressed format that allows a conversation to be transmitted with limited bandwidth.” Pet. 35, 65; Ex. 1003 ¶ 124; Ex. 1007 ¶ 8.

Patent Owner responds that Proctor does not teach further processing by circuitry in the mobile phone. PO Resp. 25–27; PO Sur-reply 10–11. Patent Owner argues that “the limitation of ‘further processing’ would at least require the recovery of the information from the audio signal into digital information as part of ‘further processing’ the information.” PO Resp. 27 (citing Ex. 2007 ¶ 90). Patent Owner contends that Proctor's mobile phone “does not retrieve the card information from the audio signal,”

but, rather, “merely . . . takes the analog audio information it receives . . . and relays, reformats or repackages it for the cellular network.” *Id.* (citing Ex. 2007 ¶ 91).

Patent Owner’s argument is unavailing. First, as discussed above, we do not adopt Patent Owner’s construction of the term “further processing” that requires converting the analog signal back to binary data as stored on a transaction card. *See* Section II.C.2. Second, as also discussed above, Proctor teaches that the mobile phone receives the recorded information as an *analog* audio signal and includes circuitry that encodes the recorded information in *digital* format for transmission over a *digital* cellular network. Ex. 1007 ¶¶ 8, 16.

5. *Claim 4*

Claim 4 depends from claim 3, and recites “the smart card is selected from a group consisting of a chip card, EMV card, proximity detector or NFC card, contactless card, or any combination thereof.” Ex. 1001, 12:45–48. We agree with Petitioner’s arguments and evidence regarding this limitation. Eisner teaches that the smart card is a chip card. Pet. 64–65; Ex. 1012, 7:52–59. Vrotsos also teaches that the smart card is a chip card. Pet. 33, 64–65; Ex. 1009 ¶ 41.

Patent Owner responds with the same argument discussed above for claim 2. PO Resp. 48. Patent Owner’s argument is not persuasive for the same reasons discussed above. *See* Section II.D.3.

6. *Reasons for Combining Eisner, Vrotsos, 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 Vrotsos. Pet. 55–57 (citing Ex. 1003 ¶¶ 179–185). We agree with Petitioner’s

rationale. Specifically, Eisner and Vrotsos relate to the same field of endeavor as the '637 patent, namely, using a communication device for a commercial transaction. Pet. 5, 13; Ex. 1001, 1:26–31; Ex. 1009, code (57); Ex. 1012, code (57). It would have been obvious to a person of ordinary skill in the art to combine the cited teachings of Eisner and Vrotsos so that Eisner's PRCTT is a portable smart card reader device. Pet. 55; Ex. 1003 ¶ 179. Incorporating Vrotsos's portability would have been obvious because it would have improved Eisner's device by allowing a user to "easily transport the smart card reader device to any location where the transaction takes place." Pet. 21, 57; Ex. 1003 ¶¶ 91, 185. Incorporating Vrotsos's smart card reader would have been obvious because Eisner contemplates making the PRCTT a smart card reader. Pet. 55; Ex. 1003 ¶ 180; Ex. 1012, 7:52–59. Doing so also would have been obvious because it would have improved Eisner's device by allowing a user to select a magnetic stripe card or a smart card "without being limited to a specific type of card." Pet. 56; Ex. 1003 ¶ 182. Further, because the combination involves "known technique[s]," a person of ordinary skill in the art would have had a reasonable expectation of success in making Eisner's PRCTT a portable smart card reader device. Pet. 57; Ex. 1003 ¶ 185.

Petitioner also presents evidence that a person of ordinary skill in the art would have had reason to combine the cited teachings of Proctor with Eisner and Vrotsos. Pet. 61–63 (citing Ex. 1003 ¶¶ 189–193). We agree with Petitioner's rationale. Specifically, Proctor relates to the same field of endeavor as the '637 patent, namely, using a communication device for a commercial transaction. Pet. 5, 9–10; Ex. 1001, 1: 26–31; Ex. 1007 ¶ 1. 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. 62; Ex. 1003 ¶ 191. 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 "at remote locations" and not just "locations where a landline telephone connection exists." Pet. 62–63; Ex. 1003 ¶¶ 191–192. Further, because hands-free jacks "were well-known standard 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. 63; Ex. 1003 ¶ 193.

Patent Owner responds that Petitioner does not explain how a person of ordinary skill in the art would have combined Eisner, Vrotsos, and Proctor. PO Resp. 56–58. In particular, Patent Owner argues that Petitioner does not explain "how Proctor's converter would physically connect to the systems disclosed in the other references." *Id.* at 58.

Patent Owner's argument is unavailing. As discussed above, Petitioner explains how a person of ordinary skill in the art would have combined Eisner, Vrotsos and Proctor, namely, so that Eisner's PRCTT is a portable smart card reader device and connects to the hands-free jack on Proctor's mobile phone. Ex. 1003 ¶¶ 179, 191. Petitioner also explains that because the combination involves well-known components, a person of ordinary skill in the art would have had a reasonable expectation of success in combining the cited teachings of Eisner, Vrotsos, and Proctor in the manner that Petitioner proposes. *Id.* ¶¶ 185, 193. Regarding the physical connection with Proctor's converter, as discussed above, the Eisner, Vrotsos,

and Proctor combination teaches the limitations of the challenged claims without Proctor's converter. See Section II.D.2. But, even if the proposed combination incorporates Proctor's converter into Eisner's PRCTT, the evidence of record indicates that Eisner's DTMF signal can be transmitted to Proctor's converter. See *id.*

In addition, 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, Vrotsos, and Proctor. PO Resp. 56–57. Specifically, Patent Owner argues that Petitioner does not explain why a person of ordinary skill in the art would “combine Proctor with Vrotsos and still convert to an analog-audio signal and transmit to the hands-free jack of a mobile communication device.” *Id.* at 57. According to Patent Owner, “Vrotsos already describes a perfectly good means of converting card information to digital data signals and digital data packets and connecting to a digital communication port or antenna of a cell phone,” which “would appear to be much more simplified and efficient than using a controller or circuitry that converts to digital, then somehow . . . converting back to analog and sending to the analog hands-free jack instead.” *Id.* (citing Ex. 2007 ¶¶ 101–102).

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, Vrotsos, and Proctor, namely, because 1) Vrotsos's portable smart card reader would have improved Eisner's PRCTT by allowing a user to easily transport the device and to accept different types of cards; and 2) Proctor's mobile phone would have improved Eisner's PRCTT by allowing a user to operate the device at remote locations. Ex. 1003 ¶¶ 91,

180, 182, 185, 191–192. Further, even if Petitioner is correct that Vrotsos alone teaches a simpler and more efficient technique (PO Resp. 57), that does not detract from Petitioner’s evidence indicating that Vrotsos and Proctor would have improved Eisner’s PRCTT. *See In re Mouttet*, 686 F.3d 1322, 1334 (Fed. Cir. 2012) (“[J]ust because better alternatives exist in the prior art does not mean that an inferior combination is inapt for obviousness purposes.”); *In re Fulton*, 391 F.3d 1195, 1200 (Fed. Cir. 2004).

Patent Owner further responds that “Eisner is far afield from the ’637 patent” because it is “a PC-driven, landline-based system for consumers shopping at home.” PO Resp. 60; *see* PO Sur-reply 15. We disagree. “The Supreme Court’s decision in *KSR* . . . directs us to construe the scope of analogous art broadly.” *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010). As such, “[t]he field of endeavor of a patent is not limited to the specific point of novelty, the narrowest possible conception of the field, or the particular focus within a given field.” *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1001 (Fed. Cir. 2016). Here, the ’637 patent is directed to “an apparatus and a method for commercial transactions using . . . a wireless or a landline communications device.” Ex. 1001, 1:26–31. Similarly, Eisner is directed to “[a] method and apparatus for performing electronic financial transactions . . . over conventional telephone lines.” Ex. 1012, code (57). Thus, as discussed above, the ’637 patent and Eisner relate to the same field of endeavor, namely, using a communication device for a commercial transaction.

7. Summary

For the foregoing reasons, Petitioner has shown by a preponderance of the evidence that claims 1–4 would have been obvious over Eisner, Vrotsos, and Proctor.

E. Other Asserted Grounds

Petitioner argues that claims 1–4 would have been obvious over 1) Proctor and Vrotsos; 2) Colnot and Vrotsos; and 3) Proctor, Vrotsos, and Morley. Pet. 16–52, 65–78. Because Petitioner has shown that the challenged claims are unpatentable based on the asserted ground 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”).

F. Petitioner’s Motion to Exclude

Petitioner filed a Motion to Exclude (Paper 35, “Pet. Mot. Excl.”), Patent Owner filed an Opposition (Paper 37, “PO Opp. Excl.”) to the Motion, and Petitioner filed a Reply (Paper 38, “Pet. Reply Excl.”) to the Opposition. We have considered the parties’ arguments, and, for the reasons discussed below, Petitioner’s Motion to Exclude is *denied*.

1. Exhibits 2001 and 2002

Exhibit 2001 is a Corrected Petition for *Inter Partes* Review in IPR2014-00312, and Exhibit 2002 is a Decision on Institution of *Inter Partes* Review in IPR2014-00312. Petitioner argues that Exhibits 2001 and

2002 should be excluded under Federal Rules of Evidence 401, 402, 403, as irrelevant and prejudicial. Pet. Mot. Excl. 2–9. Specifically, Petitioner contends that Patent Owner cites Exhibits 2001 and 2002 “for the unfounded proposition that Petitioner had previously argued [in IPR2014-00312] that [U.S. Provisional Application No. 61/151,459] (Exhibit 1005) provides written description support” for the claims of the ’637 patent. *Id.* at 3, 6. Petitioner contends that because Patent Owner’s allegation “is false,” Exhibits 2001 and 2002 are not relevant to any issue in this case, and any probative value is outweighed by the potential prejudice. *Id.* at 4–9.

Patent Owner relies on Exhibits 2001 and 2002 to respond to the asserted ground of unpatentability that includes Morley. See PO Resp. 52–53; PO Sur-reply 18–20. As discussed above, we do not reach the asserted ground that includes Morley. See Section II.E. Therefore, because Petitioner does not suffer any prejudice by our admission of Exhibits 2001 and 2002, Petitioner’s Motion to Exclude is *denied* with respect to Exhibits 2001 and 2002.

2. *Exhibit 2003*

Exhibit 2003 is a Complaint for Patent Infringement in 4361423 *Canada Inc. v. Square, Inc.*, No. 4:19-cv-04311 (N.D. Cal.). Petitioner argues that Exhibit 2003 should be excluded under Federal Rules of Evidence 401 and 402, as irrelevant. Pet. Mot. Excl. 9. Specifically, Petitioner contends that “Patent Owner does not cite or rely on Exhibit 2003 in its Patent Owner Response (Paper 23), and therefore waived any argument relying on Exhibit 2003.” *Id.* Patent Owner does not identify any portion of the Response or Sur-reply that explains the relevance of Exhibit 2003. See PO Opp. Excl. 14. Rather than exclude that evidence, however,

we decide to give it no weight. *See* 37 C.F.R. § 42.104(b)(5). Therefore, Patent Owner’s Motion to Exclude is *denied* with respect to Exhibit 2003.

3. Summary

For the foregoing reasons, Petitioner’s Motion to Exclude is *denied*.

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. 61. 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.* We decline to consider Patent Owner’s constitutional challenge as the Federal Circuit addressed this issue in *Arthrex*, 941 F.3d at 1325.

In addition, Patent Owner argues that “subjecting a patent effectively filed before September 16, 2012 (when the relevant provisions of the [Leahy-Smith America Invents Act] went into effect), as is the case here, to [*inter partes* review] is an impermissibly retroactive, unconstitutional taking” and “violates the Due Process Clause of the Fifth Amendment.” PO Resp. 61–62. 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 1–4 of the '637 patent are unpatentable.

In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–4	103	Eisner, Vrotsos, Proctor	1–4	
1–4	103	Proctor, Vrotsos ¹⁰		
1–4	103	Colnot, Vrotsos ¹¹		
1–4	103	Proctor, Vrotsos, Morley ¹²		
Overall Outcome			1–4	

IV. ORDER

It is hereby

ORDERED that claims 1–4 of the '637 patent are shown unpatentable;

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).

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

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

¹² We do not reach this asserted ground. See Section II.E.

FURTHER ORDERED that Petitioner's Motion to Exclude is *denied*;
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.

IPR2019-01650
Patent 9,311,637 B2

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