

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MASTERCARD INCORPORATED AND
MASTERCARD INTERNATIONAL INCORPORATED,
Petitioner,

v.

OV LOOP, INC.,
Patent Owner.

IPR2023-01289
Patent 10,032,171 B2

Before LYNNE H. BROWNE, JAMES A. TARTAL, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

TARTAL, *Administrative Patent Judge*.

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

I. INTRODUCTION

Mastercard Incorporated and Mastercard International Incorporated (“Petitioner”)¹ filed a Petition requesting an *inter partes* review of claims 1–33 (“the Challenged Claims”) of U.S. Patent No. 10,032,171 B2 (Ex. 1001, “the ’171 patent”). Paper 1 (“Pet.”). OV Loop, Inc. (“Patent Owner”)² filed a Preliminary Response. Paper 13.

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314(b) (2018); 37 C.F.R. § 42.4(a) (2023). An *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Upon consideration of the Petition, the Preliminary Response, and the evidence of record, we conclude that the information presented shows a reasonable likelihood that Petitioner would prevail in showing the unpatentability of at least one of the Challenged Claims. Accordingly, we institute an *inter partes* review.

II. BACKGROUND

A. The ’171 Patent

The ’171 patent issued July 24, 2018, from an application filed on August 30, 2012, and is directed to using a mobile device for a secure payment transaction through interrogation with a point-of-sale (“POS”) terminal. Ex. 1001, 1:25–30, codes (21), (22), (45), (57). The ’171 patent refers back to three provisional applications, the earliest of which was filed on August 30, 2011. *Id.* at code (60). Patent Owner has stipulated that it

¹ Petitioner identifies no additional real parties in interest. Pet. 10.

² Patent Owner identifies no additional real parties in interest. Paper 4, 1.

“will not allege in the IPR2023-01289 proceeding that any of claims 1–33 of the ’171 Patent are entitled to a priority date any earlier than the August 30, 2012 filing date of the non-provisional application for the ’171 Patent.” Paper 14, 6.³ Accordingly, in this proceeding August 30, 2012, is the priority date of the ’171 patent.

According to the ’171 patent, prior payment systems used “a microchip referred to as a ‘Secure Element’ (SE) embedded into a “card” or “card device,” such as a payment card, payment fob, cell phone, or other mobile device for making payments. *Id.* at 1:34–40. The ’171 patent states that “it is important to note that the SE may be an emulated software based SE,” and that “virtually any electronic device with a digital memory and processor or controller may be adapted to emulate and pretend to be an SE.” *Id.* at 1:45–49. As further background, the ’171 patent explains that “to extract information from the SE, an interrogator,” also referred to as “a reader,” “is required to interact electrically with the SE” and “typically follows standards set forth by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) and by application providers (such as VISA and MASTERCARD).” *Id.* at 1:50–56. The ’171 patent further explains as follows:

Cards containing an SE are typically presented to an RFID (Radio Frequency Identification) reader device as the interrogator that extracts the information from the card and delivers the data to the POS terminal and then forwarded by the

³ Patent Owner’s Response to Petitioner’s Explanation of Parallel Petitions (Paper 14) was filed with no page numbers. The Parties are directed to properly number each page of each brief to facilitate citations to their arguments.

POS terminal on to a card processor for authorization. Mobile phones that contain NFC (Near Field Communication) functionality with embedded SEs have the ability to pretend to be (or emulate) a card that contains an SE. In this case the mobile phone may be presented to the RFID reader just as a card would be presented, and the information may be extracted from the SE that is on the mobile phone and delivered to POS, which then forwards the data on to a card processor for authorization.

Id. at 6:3–15. The '171 patent also includes an illustration of “a protocol level communication between a reader and an SE,” and notes that “[t]he protocol layer is a standard protocol” referred to as the “Application Protocol Data Unit” (“APDU”), which is typically “defined by ISO/IEC specification 7816.” *Id.* at 6:16–20, Fig. 1. The '171 patent states a shortcoming of the prior systems was the requirement to “have physical possession of a card that matches the authorization capabilities of a merchant’s system where a purchase is made,” which was “inconvenient.” *Id.* at 1:34–60.

The '171 patent seeks to provide “more flexible and convenient systems and methods for authorizing financial transactions,” and so proposes “systems and methods . . . to facilitate transactions at a point-of-sale terminal where it is not necessary for the user (e.g., the purchaser) to have physical possession of a card with a magnetic stripe or possession of a secure element.” *Id.* at 1:61–62, 9:11–15.

In one embodiment, the '171 patent describes the use of “a remote permanent cryptographic key” stored at a “remote source” away from the mobile device “to calculate an expected cryptogram that is expected to include at least a portion of the digital credential data.” *Id.* at 1:66–2:10. An interrogation between the POS terminal and the mobile device includes sending at least one POS command communication from the POS terminal

to the mobile device requesting the digital credential data and at least one device response communication from the mobile device to the POS terminal including the expected cryptogram, such that the financial transaction is authorized. *Id.* at 2:10–21. The '171 patent states that “cryptogram” refers to “encrypted data” and “cryptographic key” refers to “a key used, at least in part, to calculate a cryptogram.” *Id.* at 25:37–45. A “dynamic” cryptogram “is always changing from one interrogation (transaction) to the next over the life of a digital credential (SE representation).” *Id.* at 25:64–67. A “permanent cryptographic key” refers to a cryptographic key that is unchanging (or static) throughout the life of a card, SE, mobile device, or digital credential.” *Id.* at 27:29–32. A “temporary cryptographic key” “changes (or is dynamic) from one interrogation to the next over the life of a digital credential (e.g., an SE representation).” *Id.* at 27:33–36.

Figure 15 of the '171 patent is reproduced below.

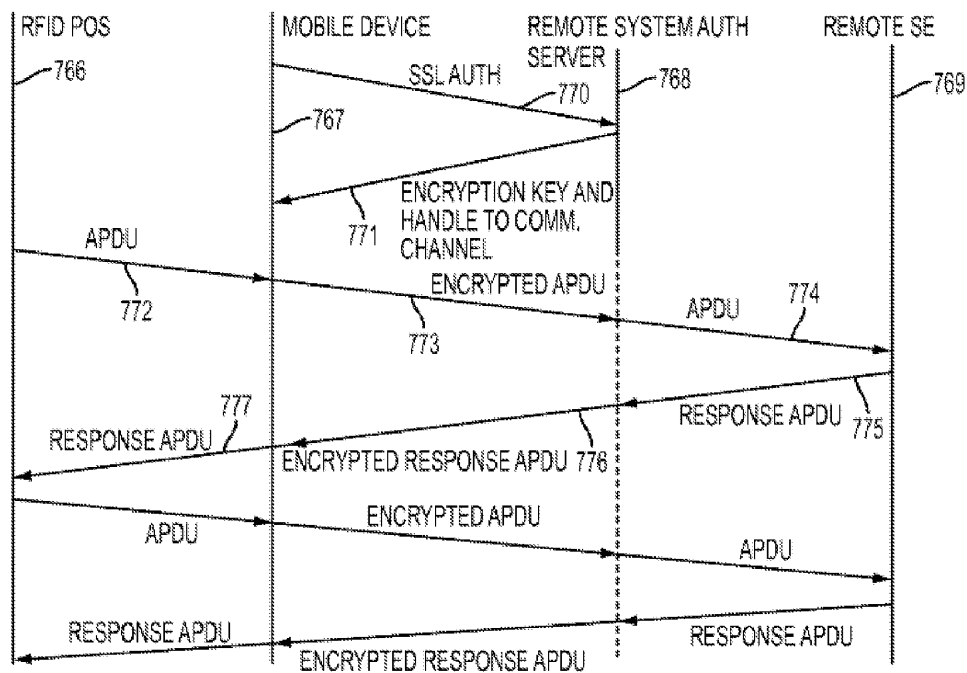


FIG. 15

Figure 15 “illustrates an embodiment of a data flow diagram including authorization between a mobile device and a remote hosted SE.” Ex. 1001, 4:3–4. Figure 15 shows four vertical lines identified from left to right as RFID POS entity 766, mobile device 767, remote system authorization server 768, and remote hosted SE 769. *Id.* at 17:47–52. A series of sloping arrows between the vertical lines illustrates in Figure 15 how mobile device 767 interacts with remote authorization server 768 to facilitate the access of digital credential data from remote SE 769. *Id.* at 17:52–56. More specifically, the ’171 patent describes the communications illustrated in Figure 15 as follows:

a communication channel is opened between the RFID POS 766 and the remote SE 769. Authorization over SSL is initiated where credentials 770 are sent to the remote authorization server 768. The remote authorization server 768 verifies the credentials and sends back a successful response 771 which contains a handle to a communication channel and an encryption key. The mobile device 767 may then open a channel to the remote SE 769. At that point APDU command and response APDUs may be sent securely between the RFID POS reader 766 and the remote SE 769 and back through the mobile device 767. An APDU command 772 is sent from the RFID POS reader 766 to the mobile phone 767, which may encrypt that APDU as command 773 and forwards an APDU command 773 on to the remote system 768 and on to the remote SE 769 as APDU command 774. In some embodiments the command communications 773 and 774 comprise at least a portion of the command communication 772 from the RFID POS 766 to the mobile device 767. In some embodiments the mobile device 767 may know ahead of time what the RFID POS 766 10 will command the mobile device 767 in the APDU command 772 in advance of actually interacting with the RFID POS 766. In such cases the command 773 may have been sent already sent by the mobile device 767 before the command 772 was received by the mobile device 767 from the RFID POS 766. The return APDU response from the SE is delivered back to the RFID POS through

the communication channel using the handle provided by the response 771, via communications 775, 776, and 777.

Id. at 17:57–18:19.

B. Illustrative Claim

Petitioner challenges claims 1–33 of the ’171 patent. Pet. 12. Claims 1 and 17 are independent claims. Claims 2–16 depend from claim 1 and claims 18–33 depend from claim 17. Claim 17 recites “[a] system for secure application-based participation by a mobile device in point-of-sale interrogations” comprised of features that generally correspond to the limitations of the method recited in claim 1. *Id.* at 53:15–16:22.

Claim 1 is illustrative of the claimed subject matter and is reproduced below, with bracketed labels annotated by Petitioner:

1. [1.PRE] A method for secure application-based participation in a payment card transaction authorization process by a mobile device, the method comprising:

[1.A-1] at a mobile device, executing an application in an operating system of the mobile device, [1.A-2] the application interrogable by an electronic reader, over a first communications channel, for digital credential data corresponding to an account having a corresponding digital credential and [1.A-3] configured to request, from a remote computer system hosting the corresponding digital credential, over a wireless network that is separate from the first communications channel, data associated with the account and [1.A-4] generate cryptograms requested during interrogations over the first communications channel using the data associated with the account received from the remote computer system, wherein the application does not access a permanent cryptographic key issued for the digital credential during the interrogations;

[1.B] requesting by the application, from the remote computer system, over the wireless network, a first set of data associated with the account;

[1.C] receiving by the application, from the remote computer system, over the wireless network, the first set of data associated with the account, the first set of data associated with the account usable by the application to formulate an application protocol data unit response, the first set of data comprising a first non-permanent cryptographic key associated with the account;

[1.D] locally storing the first non-permanent cryptographic key at the mobile device as a local cryptographic key associated with the account;

[1.E] participating by the application in an interrogation between a point-of-sale (POS) terminal and the mobile device comprising:

[1.E-1] receiving at least one POS command communication sent by the POS terminal over the first communications channel, wherein the at least one POS command communication comprises a request for digital credential data to authorize a transaction against the account, the request for digital credential data including a cryptogram request;

[1.E-2] generating a response cryptogram based on a set of inputs and the local cryptographic key associated with the account, wherein the response cryptogram does not include the local cryptographic key associated with the account used to generate the response cryptogram; and

[1.E-3] responding to the at least one POS command communication, wherein responding to the at least one POS command communication comprises sending at least one device response communication from the mobile device to an electronic reader through the communication channel, the at least one device response communication comprising at least one response application data protocol unit containing the response cryptogram and an account identifier for the account;

[1.F] subsequent to the interrogation, requesting by the application, from the remote computer system, over the wireless network, a second set of data associated with the account;

[1.G] receiving by the application, from the remote computer system, over the wireless network, the second set of data associated with the account, the second set of data comprising a second non-permanent cryptographic key associated with the account; and

[1.H] storing the received second non-permanent cryptographic key as the local cryptographic key associated with the account to change the local cryptographic key associated with the account between at least two interrogations.

Ex. 1001, 50:61–51:65; Pet. 1–2.

C. Asserted Grounds of Unpatentability

Petitioner asserts that the Challenged Claims are unpatentable based on the following grounds:

Claims Challenged	35 U.S.C. §⁴	Reference/Basis
1–4, 6–20, 22–33	102	Collinge ⁵
1–33	103(a)	Collinge
1–33	102	Fiske ⁶
1–33	103(a)	Fiske

Pet. 13. Petitioner further relies on the supporting Declaration of Stuart Fiske, D. Phil., dated August 11, 2023. Ex. 1006.

⁴ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. §§ 102 and 103 that became effective on March 16, 2013. We apply the pre-AIA version of §§ 102 and 103 here, because the ’171 patent issued from an application filed before the effective date of the AIA. *See* Ex. 1001, code (22).

⁵ U.S. Patent App. Pub. No. US 2013/0262317 A1, published Oct. 3, 2013 (Ex. 1011, “Collinge”).

⁶ U.S. Patent No. 11,080,693 B2, issued Aug. 3, 2021 (Ex. 1012, “Fiske”).

D. Related Proceedings

The Parties identify the '171 patent as a subject of *OV Loop, Inc. v. Mastercard Incorporated*, Case 7:23-cv-01773 (S.D.N.Y.). Pet. 10; Paper 4, 1. Additionally, Petitioner filed a parallel petition in IPR2023-01290 seeking *inter partes* review of the Challenged Claims based on different grounds. IPR2023-01290, Paper 1. Petitioner prioritized this Petition for our consideration prior to our consideration of the parallel petition filed in IPR2023-01290. Paper 3, 1–2. Accordingly, we do not reach the issue of parallel petitions in this proceeding, and instead address the issue when considering whether to institute *inter partes* review in IPR2023-01290.

III. ANALYSIS

A. Legal Standards for Anticipation and Obviousness

Petitioner contends under two grounds that certain Challenged Claims are anticipated. Pet. 8. A claim is anticipated if a single prior art reference either expressly or inherently discloses every limitation of the claim. *Orion IP, LLC v. Hyundai Motor Am.*, 605 F.3d 967, 975 (Fed. Cir. 2010). “A single prior art reference may anticipate without disclosing a feature of the claimed invention if such feature is necessarily present, or inherent, in that reference.” *Allergan, Inc. v. Apotex Inc.*, 754 F.3d 952, 958 (Fed. Cir. 2014) (citing *Schering Corp. v. Geneva Pharm.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003)).

Petitioner contends under two grounds that the Challenged Claims are unpatentable based on obviousness. Pet. 8. 35 U.S.C. § 103(a) sets forth as follows:

[a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such

that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

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) when in evidence, objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

An obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Intern. Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). However, Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Instead, Petitioner must articulate a reason why a person of ordinary skill in the art would have combined the prior art references. *In re NuVasive*, 842 F.3d 1376, 1382 (Fed. Cir. 2016); *see also Pers. Web Tech., LLC, v. Apple, Inc.*, 848 F.3d 987, 993–94 (Fed. Cir. 2017) (“[O]bviousness concerns whether a skilled artisan not only could have made but would have been motivated to make the combinations or modifications of prior art to arrive at the claimed invention”) (quoting *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015)) (alteration in original).

“Whether an ordinarily skilled artisan would have been motivated to modify the teachings of a reference is a question of fact.” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1327 (Fed. Cir. 2016) (citations omitted). “[W]here a party argues a skilled artisan would have been motivated to

combine references, it must show the artisan ‘would have had a reasonable expectation of success from doing so.’” *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1360–61 (Fed. Cir. 2017) (quoting *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1068–69 (Fed. Cir. 2012)).

B. Level of Ordinary Skill in the Art

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation omitted). Petitioner contends a person of ordinary skill in the art “would be a person with a Bachelor’s degree in Electrical Engineering or Computer Engineering, or equivalent knowledge, with sufficient mathematical background to understand basic cryptographic techniques, and with two to four years of academic or industry experience in payment systems.” Pet. 24. Petitioner further contends “[a]dditional education could compensate for less practical experience and vice versa.” *Id.*

Patent Owner asserts a person of ordinary skill in the art would have had “the equivalent of an undergraduate degree in electrical and computer engineering (or a related field) and approximately two years of work experience in the field of secure payment system,” and that “[a]dditional education in the field could be substituted for industry experience, and vice versa.” Prelim. Resp. 12. Patent Owner does not suggest that its proposed level of ordinary skill materially differs from the level of skill proposed by Petitioner for purposes of determining whether to institute *inter partes* review. *See id.*

We find, on the current record, that the '171 patent and the cited prior art references reflect the appropriate level of skill at the time of the claimed invention and that the level of appropriate skill reflected in these references and in the '171 patent is consistent with the definition of a person of ordinary skill in the art proposed by Petitioner. Accordingly, we adopt Petitioner's proposed level of ordinary skill in the art for purposes of this Decision. We note we would have reached the same conclusions in this Decision had we adopted Patent Owner's proposed level of ordinary skill in the art on the current record and Patent Owner may address any material differences in the proposed levels of ordinary skill in its response.

C. Claim Construction

We apply the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b). Under that standard, claim terms “are generally given their ordinary and customary meaning” as would have been understood by a person of ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc)). “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). Extrinsic evidence is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Phillips*, 415 F.3d at 1317.

Petitioner states that it “gives the terms their ordinary and customary meaning, as understood by a [person of ordinary skill in the art] at the time of the invention and in the context of the patent disclosure.” Pet. 24.

Petitioner further asserts that claims 1 and 17 recite “at least one response application data protocol unit containing the response cryptogram and an account identifier for the account” (referred to by Petitioner as the “R-ADPU Term”), which Petitioner argues is “potentially subject to at least two alternative constructions.” *Id.* at 24–25. In particular, Petitioner asserts the R-ADPU Term may be construed either as “one or more response application data protocol units, collectively containing the response cryptogram and an account identifier for the account” or as “one or more response application data protocol units, each of which contains both the response cryptogram and an account identifier for the account.” *Id.* Petitioner contends “the challenged claims are anticipated or obvious under either construction” and that that there is no need to construe the R-ADPU Term at this stage of the proceeding.

Patent Owner does not propose an express construction of any claim term. *See* Prelim. Resp. 11. Patent Owner notes the alternative constructions of the R-ADPU Term proposed by Petitioner, but does not advocate one construction over the other and does not propose an alternative construction. *Id.*

We find that an express construction of any claim term is not necessary for purposes of this Decision. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Alleged Anticipation and Obviousness Based on Collinge

Petitioner contends claims 1–33 are anticipated by Collinge. Pet. 36–65. Petitioner also contends the subject matter of claims 1–33 would have

been obvious over Collinge. *Id.* Petitioner’s contentions are supported by Dr. Fiske. Ex. 1006 ¶¶ 81–163. As an overview of the ’171 patent, Patent Owner states that in place of a “preprogrammed Secure Element that is directly interrogated by the POS terminal, the ’171 patent discloses a mobile device that includes an application running in an operating system and a technique to allow the mobile application to be interrogated by an electronic reader (e.g., a POS terminal) for digital credential data associated with the payment account.” Prelim. Resp. 10 (citing Ex. 1001, 17:46–63). Patent Owner disputes Petitioner’s contentions based on Collinge, primarily in regard to whether Petitioner has sufficiently set forth (1) how Collinge is prior art and (2) how Collinge discloses or teaches certain limitations of claim 1 (i.e., 1.A-2 and 1.E). *Id.* at 13–31. Based on the current record, we determine Petitioner has shown a reasonable likelihood of prevailing in showing that at least claim 1 would have been obvious over Collinge and we focus our discussion below on the arguments in opposition raised by Patent Owner at this stage of the proceeding.

1. Summary of Collinge

Collinge is a patent application directed “to provisioning of payment credentials to a mobile device lacking a secure element,” specifically, “for use in conducting a near field financial transaction.” Ex. 1011 ¶ 2.

Figure 1 of Collinge, reproduced below, illustrates “a system for generating and provisioning payment credentials to a mobile device.” *Id.* ¶ 16.

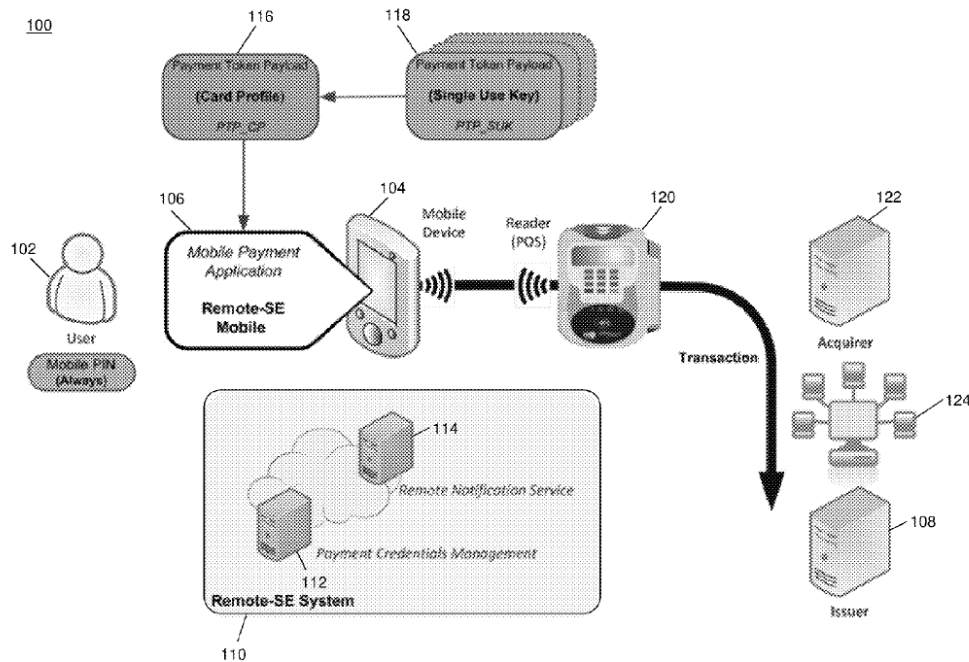


FIG. 1

As shown in Figure 1, system 100 includes user 102 in possession of mobile device 104, which may include payment application 106. *Id.* ¶¶ 40–41. User 102 may use mobile device 104 for payment transactions that rely on a payment account with issuer 108, where “[p]ayment credentials corresponding to the payment account may be stored by a remote-SE (remote-secure element) system 110 for provisioning to the mobile device 104.” *Id.* ¶ 42. In particular, remote-SE system 110 may use a token payload, including card profile 116 and single use key 118, to provision payment credentials to mobile device 104. *Id.* ¶ 43. “[C]ard profile 116 may include the payment credentials, and the single use key 118 may be a single use (e.g., one-time use) key used to generate a payment cryptogram valid for a single payment transaction.” *Id.*

For payment transactions, “mobile device 104 may be further configured to transmit a generated payment cryptogram and payment credentials to a point-of-sale terminal 120 at a merchant,” where “point-of-sale terminal 120 may be any type of point-of-sale terminal or device suitable for receiving payment credentials via near field communication (NFC).” *Id.* ¶ 44. Point-of-sale terminal 120 may submit payment credentials and other transaction information to acquirer 122 for authorization, which includes using payment network 124 to query issuer 108. *Id.* ¶¶ 44–45.

2. *Collinge as Prior Art*

Collinge is a patent application filed on March 14, 2013, and published on October 3, 2013. Ex. 1011, codes (22), (43). Collinge refers back to a series of provisional applications, including Provisional Application No. 61/619,095, filed on April 2, 2012 (Ex. 1009, “the ’095 Provisional”) and Provisional Application No. 61/639,248, filed on April 27, 2012 (Ex. 1010, “the ’248 Provisional”). The date Collinge was filed, March 14, 2013, is after the August 30, 2012, priority date of the ’171 patent stipulated to by Patent Owner in this proceeding. Petitioner asserts that “Collinge is pre-AIA 102(e) prior art as of its priority date of April 2, 2012,” the filing date of the ’095 Provisional. Pet. 25, 28–33.⁷

For Collinge to be § 102(e) prior art as of the filing date of the ’095 Provisional, the ’095 Provisional must provide written description support for: (1) the subject matter of at least one claim of Collinge,

⁷ Petitioner also asserts that the ’248 Provisional provides written description support for all elements of at least one independent claim of Collinge, but provides no supporting analysis in the Petition. *See* Pet. 28.

and (2) the subject matter Petitioner relies upon in Collinge to show the unpatentability of the Challenged Claims of the '171 patent. *See In re Giacomini*, 612 F.3d 1380, 1383 (Fed. Cir. 2010); *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1382 (Fed. Cir. 2015). As to the first consideration, Petitioner provides a detailed claim chart identifying how Petitioner contends the '095 Provisional provides written description support for each limitation of claim 20 of Collinge. Pet. 29–33. As to the second consideration, using Petitioner's allegations directed to claim 1 of the '171 patent as an example, Petitioner provides a detailed analysis of how it contends Collinge discloses or teaches each limitation of claim 1 with supporting citations to both Collinge and to the '095 Provisional. *Id.* at 36–52. We find Petitioner's contentions, on the current record, sufficient to support Petitioner's contention that Collinge is available as prior art for purposes of institution. We disagree with Patent Owner's arguments disputing the sufficiency of Petitioner's showing, at this stage of the proceeding, that Collinge is available as prior art for the following reasons. *See* Prelim. Resp. 13–19.

First, Patent Owner broadly argues that “Petitioner makes no attempt to show” that the '095 Provisional provides “sufficient support for the subject matter relied upon for prior art purposes in Collinge.” *Id.* at 16. To the contrary, as explained above, Petitioner includes citations to the '095 Provisional in support of its unpatentability contentions, which we understand to constitute how Petitioner argues the portions of Collinge relied upon by Petitioner to show the unpatentability of the subject matter of the Challenged Claims was “carried forward” from the '095 Provisional to Collinge. We disagree with Patent Owner's assertion that Petitioner had an obligation to provide, at this stage of the proceeding, an “explanation as to

how the '095 Provisional supports the subject matter relied upon in Collinge" beyond the support identified in the Petition. *Id.* at 17.

Second, Patent Owner argues that, for certain limitations of claim 1, (i.e., 1.A-3 and 1.E-1) Petitioner "cites to no evidence" from the '095 Provisional in support of its contentions. *Id.* at 17–19. We disagree. In each instance in discussing these limitations, Petitioner includes citations to the '095 Provisional. *See* Pet. 38–41 (citing Ex. 1009 ¶ 61, Table 1, cl. 19), 45–46 (citing Ex. 1009 ¶¶ 61, 63). Patent Owner does not identify what subject matter it contends is relied upon by Petitioner that lacks written description support from the disclosure of the '095 Provisional. Instead, Patent Owner appears to suggest that for each citation to Collinge in the Petition, Petitioner was required to provide a corresponding citation to the '095 Provisional. We are not persuaded that such a formulistic approach, divorced from the merits, is required for Petitioner to show in the Petition how Petitioner contends the '095 Provisional provides written description support for the subject matter taught by Collinge relied on by Petitioner. For purposes of institution, we find Petitioner has provided sufficient support to show that Petitioner may rely on Collinge as prior art.

3. *Claim 1*

Petitioner contends claim 1 is anticipated by Collinge. Pet. 36–52. Petitioner also contends the subject matter of claim 1 would have been obvious over Collinge. *Id.* In describing the disclosure of Collinge, Petitioner states, in part, as follows:

Collinge teaches a remote system (100) separate from a user mobile device, that generates payment credentials, including a "single use key" transmitted "to the mobile device, wherein the mobile device is not required to have a secure element." Ex[1011], [0007], [0039], [0043], cl. 1. The "single use key" is

used by the user's mobile device to "generate a payment cryptogram valid for a single payment transaction." Ex[1011], [0043]; *see also* Ex[1009], [0010]; Ex[1010], [0010]. The remote system and the mobile device "may communicate using dual channel communication." Ex[1011], [0043].

Collinge discloses a mobile device including a mobile payment application 194 configured to conduct payment transactions with a POS terminal via NFC without the use of a SE. Ex[1009], [0002]-[0003], [0033], [0075]; Ex[1010], [0002]-[0003].

Pet. 26. Petitioner further provides a limitation-by-limitation discussion of how it contends Collinge discloses the features of claim 1 and, to the extent a limitation was not expressly disclosed, why it would have been obvious to a person of ordinary skill. *Id.* at 36–52. Patent Owner argues Petitioner's contentions directed to limitations 1.A-2 and 1.E of claim 1 are insufficient to show a reasonable likelihood of prevailing. Prelim. Resp. 20–31. We focus our discussion below on these disputed limitations.

[1.A-2] the application interrogable by an electronic reader, over a first communications channel, for digital credential data corresponding to an account having a corresponding digital credential

Petitioner contends "Collinge's mobile application is interrogable by an electronic reader, such as the POS terminal, over a first communications channel (e.g., NFC) for digital credential data." Pet. 37 (citing Ex. 1011 ¶¶ 44, 70, 86, 120, Fig. 14; Ex. 1009 ¶¶ 14, 30, 33, 40, 60-62). Petitioner further argues that "Collinge explains that 'the point-of-sale terminal 120 may execute standard NFC payment transactions processes,' and that a person of ordinary skill would have understood "that standard NFC payment transactions entails interrogation of the payment token (payment card,

mobile payment application) by a POS reader.” *Id.* (citing Van de Velde⁸ ¶¶ 62, 70). Petitioner reasons that a person of ordinary skill would have understood that the “contactless payment techniques” of Collinge would have been “compatible with EMV infrastructure,” and that it was “well known” that in an EMV transaction the “POS will select an application on a ‘Card’” and the application on the “Card” will return “data necessary for approval of a transaction” (i.e., “digital credential data”). *Id.* at 38 (citing EMV Book A,⁹ EMV Book C-2,¹⁰ EMV Book C-3,¹¹ Radu¹²).

Patent Owner disputes the sufficiency of Petitioner’s contentions directed to limitation 1.A-2 of claim 1. Prelim. Resp. 20–26. First, Patent Owner argues, in regard to anticipation by Collinge, that Petitioner “never explains its basis” and “fails to even mention” the portion of the limitation concerning “digital credential data.” Prelim. Resp. 20–21. Patent Owner also argues that Petitioner’s citations to Collinge do not remedy the problem because arguments in a petition must be made with particularity. *Id.* at 21. Further, according to Patent Owner, the paragraphs of Collinge cited by Petitioner do not “mention ‘interrogation’ or ‘digital credential data,’ and

⁸ U.S. Patent App. 2010/0252624 A1, published Oct. 7, 2010 (Ex. 1015, “Van de Velde”).

⁹ *EMV® Contactless Specifications for Payment Systems, Book A: Architecture and General Requirements*, Version 2.1 (March 2011) (Ex. 1023, “EMV Book A”).

¹⁰ *EMV® Contactless Specifications for Payment Systems, Book C-2: Kernel 2 Specification*, Version 2.1 (March 2011) (Ex. 1026, “EMV Book C-2”).

¹¹ *EMV® Contactless Specifications for Payment Systems, Book C-3: Kernel 3 Specification*, Version 2.1 (March 2011) (Ex. 1027, “EMV Book C-3”).

¹² Radu, C., *Implementing Electronic Card Payment Systems* (2003) (Ex. 1037, “Radu”).

none of them describe any kind of account, let alone an account having a digital credential.” *Id.* at 21–22.

We do not agree with Patent Owner’s arguments on the current record. Petitioner argues that Collinge discloses to a person of ordinary skill in the art “contactless payment techniques compatible with EMV infrastructure,” including that “the application on the “Card” returns “digital credential data” corresponding to “data necessary for approval of a transaction.” Pet. 38. Petitioner need not show that Collinge uses the same words that appear in the ’171 patent to show that Collinge discloses to a person of ordinary skill in the art features that correspond to the features of claim 1.

In regard to obviousness, Patent Owner argues again that Petitioner fails “to identify ‘digital credential data’ or ‘an account having a corresponding digital credential.’” Prelim. Resp. 22. Further, according to Patent Owner, the paragraphs of Van de Velde cited by Petitioner in support do not “mention NFC” or describe “standard NFC payment transactions.” *Id.* Patent Owner asserts Van de Velde was not shown to be “relevant” or “appropriate,” because it is “not listed as a statutory basis . . . for unpatentability.” *Id.* at 22–23. Van de Velde, however, expressly discusses “interrogation of the electronic payment device,” which we understand Petitioner relies on to show what was well-known to a person of ordinary skill in the art. *See* Ex. 1015 ¶ 62; *see also* Ex. 1006 ¶ 47 (Dr. Fiske explaining that “[t]he typical transaction process involves the merchant reading information from the card or payment mobile device (such as card number, and authentication information) with a reader, a process known in the art as ‘interrogation.’” (citing Van de Velde ¶¶ 62, 70)).

Next, Patent Owner asserts Petitioner cites to EMV Book A, EMV Book C-2, and EMV Book C-3, but has not “proven, nor even alleged” these references are prior art. *Id.* at 23; *see also id.* at 25 (arguing that these exhibits are used “to fill in a missing limitation”). Patent Owner also argues that Petitioner “offers no explanation” to show that an EMV transaction between a POS terminal and a payment card “is relevant to Collinge’s contactless payment techniques, which are between a POS terminal and a mobile device.” *Id.* at 23–24 (emphasis omitted). According to Patent Owner, Petitioner also fails to explain what “compatible with EMV infrastructure” means. *Id.* at 24.

We disagree with Patent Owner’s arguments on the current record. We understand Petitioner to rely on EMV Book A, EMV Book C-2, and EMV Book C-3 to show what was well-known to a person of ordinary skill in the art about the operation of EMV transactions. Further, according to Dr. Fiske, a person of ordinary skill “reading Collinge would understand it as disclosing devices, systems, and methods compatible with mainstream contactless payment transactions including EMV transactions.” Ex. 1006 ¶ 73. We do not agree on the current record that Petitioner had an obligation to further explain what “compatible with EMV infrastructure means,” particularly where Patent Owner does not explain why further clarification is necessary. Patent Owner also does not identify the “missing limitation” for which it alleges Petitioner relies on EMV Book A, EMV Book C-2, and EMV Book C-3. *See* Prelim. Resp. 25. Petitioner sufficiently shows how it contends Collinge discloses the limitation at issue, and has supported those contentions with citations to additional exhibits as evidence of how a person of ordinary skill in the art would have understood Collinge’s disclosure. While Patent Owner asserts Petitioner was obligated to do more in the

Petition, we disagree with Patent Owner's argument that Petitioner's contentions are insufficient in light of what is recited by the claim.

[1.E] participating by the application in an interrogation between a point-of-sale (POS) terminal and the mobile device comprising:

Petitioner contends Collinge discloses this limitation for the same reasons as provided for element [1.A-2], discussed above. Pet. 44 (stating that “[a]s explained in [1.A-2], Collinge discloses the application participating in an interrogation between a POS terminal and the mobile device”). We note that limitation 1.E introduces with the term “comprising” the three steps of “receiving” (1.E-1), “generating” (1.E-2), and “responding” (1.E-3), which elaborate upon what is required by 1.E. Petitioner details how it contends Collinge discloses each of these three steps. Pet. 45–50.

Patent Owner does not dispute Petitioner's contentions with regard to limitations 1.E-1, 1.E-2, and 1.E-3, which expressly elaborate upon what limitation 1.E requires. Instead, Patent Owner argues that by using the term “discloses” Petitioner in referring back to its arguments under limitation 1.A.2, Petitioner makes “only an anticipation argument” as to 1.E. Prelim. Resp. 27. We disagree with Patent Owner's assessment because it is unreasonable and applies a significance to the use of “discloses” that is contrary to the arguments advanced by Petitioner in regard to limitation 1.A.2. In discussing limitation 1.E-1 Petitioner argues a person of ordinary skill “would also have found it obvious.” Pet. 46. To be clear, we recognize Petitioner's contentions directed to limitation 1.E are directed to both anticipation and obviousness.

Next, Patent Owner argues that limitation 1.E is “different” from limitation 1.A-2. Prelim. Resp. 27–28. Although limitation 1.A-2 recites “an electronic reader” and limitation 1.E recites “a point-of-sale (POS) terminal,” we find no ambiguity in Petitioner’s contention that a POS terminal is an electronic reader. *See, e.g.*, Pet. 17 (explaining how a POS terminal is used to read information and referring to “POS readers”). Patent Owner further argues that Petitioner’s contentions are insufficient for substantially similar reasons discussed above in regard to limitation 1.A-2. Prelim. Resp. 28–31 (arguing, for example, that Petitioner did not explain how Collinge discloses “interrogation between a point-of-sale (POS) terminal and the mobile device” and “cites no expert testimony” to show what is a “standard NFC payment transaction”). We have considered each of these arguments in light of limitation 1.E and disagree with Patent Owner for the same reasons discussed above in regard to limitation 1.A-2.

4. *Claim 17*

Petitioner contends claim 17 is anticipated by Collinge. Pet. 63–65. Petitioner also contends the subject matter of claim 17 would have been obvious over Collinge. *Id.* With regard to the recited “controller” of claim 17, Petitioner argues mobile device 104 of Collinge “necessarily has a controller configured to route communications over a communication channel from an electronic reader,” and that a controller was well-known to a person of ordinary skill as hardware “necessary to allow NFC communications.” *Id.* at 62 (citing Ex. 1006 ¶¶ 145, 146; Ex. 1011 ¶ 70).

Patent Owner argues that Petitioner’s contentions based on Collinge fail to show a reasonable likelihood of prevailing with regard to claim 17, and, specifically, limitations 17.D and 17.H, for the same reasons Patent Owner raises in regard to limitations 1.A-2 and 1.E of claim 1. Prelim.

Resp. 26, 31. On the current record we disagree with Patent Owner's arguments for the reasons provided above in our discussion of claim 1.

5. *Claims 2–16, 18–33*

Petitioner contends claims 2–16, which depend from claim 1, and claims 18–33, which depend from claim 17, would have been obvious over Collinge. Pet. 52–62, 65. Patent Owner does not raise any additional arguments in opposition to Petitioner's contentions directed to the dependent claims beyond the arguments Patent Owner raises with regard to claims 1 and 17. Prelim. Resp. 25–26, 30–31.

6. *Determination of a Reasonable Likelihood of Prevailing*

For purposes of this Decision, we focus our consideration on whether Petitioner has shown a reasonable likelihood of demonstrating at least one of the Challenged Claims would have been obvious over Collinge. "Once all relevant facts are found, the ultimate legal determination [of obviousness] involves the weighing of the fact findings to conclude whether the claimed combination would have been obvious to an ordinary artisan." *Arctic Cat*, 876 F.3d at 1361. Considering the record presently before us, Petitioner has, at a minimum, established a reasonable likelihood that it would prevail in showing that Collinge would have rendered the subject matter of claims 1 and 17 of the '171 patent obvious to one of ordinary skill in the art at the time of the invention.

E. *Alleged Anticipation and Obviousness Based on Fiske*

Petitioner contends claims 1–33 are anticipated by Fiske. Pet. 66–84. Petitioner also contends the subject matter of claims 1–33 would have been obvious over Fiske. *Id.* Petitioner's contentions are supported by Dr. Fiske. Ex. 1006 ¶¶ 164–237. Patent Owner disputes Petitioner's contentions based on Fiske, primarily in regard to whether Petitioner has sufficiently set forth

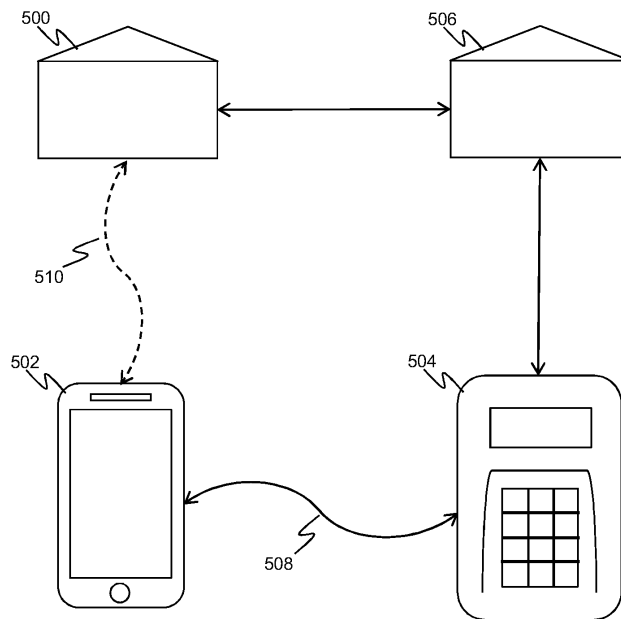
how Fiske discloses or teaches certain limitations of claim 1 (i.e., 1.A-2, 1.A-3, 1.C, and 1.E-1).¹³ Prelim. Resp. 31–54. Having already determined above that Petitioner has made the necessary showing to support institution based on its allegations of obviousness over Collinge, below we focus our discussion of the grounds based on Fiske on Patent Owner’s arguments in opposition.

1. Summary of Fiske

Fiske is generally directed to electronic payment systems, and in particular, to “authorizing an EMV [Europay, Mastercard, Visa] payment transaction between a user device and a point-of-sale terminal.” Ex. 1012, 1:19–22. Specifically, Fiske describes a scenario in which “a secure element is not made available for the deployment of a payment application on the user device.” *Id.*, code (57). Rather, “[a]n ICC [integrated circuit card] Master Key corresponding to the payment application is held by a trusted authority, such as the issuing bank,” which “is adapted [to] generate time-limited session keys on the basis of the ICC Master Key and distribute session keys to the payment application.” *Id.* A “session key is used to authorize a single EMV payment transaction.” *Id.*

¹³ Patent Owner also argues that Petitioner’s contentions based on Fiske fail to show a reasonable likelihood of prevailing with regard to claim 17, and specifically limitations 17.D, 17.H-1, and 17.F, for the same reasons Patent Owner raises in regard to limitations 1.A-2, 1.A-3, 1.C, and 1.E-1 of claim 1. Prelim. Resp. 36–37, 43–44, 50, 54.

Figure 5 of Fiske, reproduced below, illustrates an electronic payment system.



In the system of Figure 5, user device 502 includes a payment application associated with issuing bank 500, with which user device 502 may communicate over communications interface 510. *Id.* at 11:37–38, 11:49–50. Depending on the capabilities of user device 502, it may communicate with issuing bank 500 over the Internet, or a mobile telephony network. *Id.* at 11:50–57. User device 502 may also interact with POS terminal 504 via contactless communications interface 508, which may support “a short range wireless communication protocol, such as NFC.” *Id.* at 11:38–40, 11:45–48. When user device 502 is used to make a purchase from a merchant, POS terminal 504 communicates with acquiring bank 506 in order to settle the transaction. *Id.* at 11:40–44.

POS terminal 504 may perform a Terminal Action Analysis to determine how to authorize a transaction. *Id.* at 15:61–63. Then, POS terminal 504 “issues a GENERATE AC command” to the user device, and,

in response, user device 502 “performs Card Action Analysis” and “responds with an Application Cryptogram.” *Id.* at 15:67–16:3. The Application Cryptogram is generated on the basis of an aforementioned ICC Session Key and transaction specific data.” *Id.* at 16:4–6. POS terminal 504 identifies the Application Cryptogram and seeks authorization by an issuer. *Id.* at 16:6–10.

2. *Whether Fiske “Incorporates by Reference” EMV Protocols*

Petitioner asserts that “Fiske discloses the public availability of, and explicitly incorporates by reference, EMV transaction protocols based on EMV Specifications, including EMV ICC Specifications version 4.2 and EMV Contactless Specifications.” Pet. 34 (citing, e.g., Ex. 1012, 1:58–64, 6:54–61, 9:6–11). Patent Owner argues, and we agree, that Fiske contains no such incorporation by reference. *See* Prelim. Resp. 42. n.1 (citing 37 C.F.R. § 1.57(c)(1) (providing that an incorporation by reference must use “the root words ‘incorporat(e)’ and ‘reference’” and must “[c]learly identify the referenced . . . publication”). Fiske explains as background that “[m]any electronic payment systems use the EMV (Euro-pay®, Mastercard®, Visa®) transaction protocols, as defined for example in the EMV 4.2 Specifications or the EMV Contactless Specifications for Payment Systems, which are publicly available and published by EMVCO LLC,” and that “[t]hese protocols are referred to [in Fiske] as simply ‘EMV.’” Ex. 1012 1:58–64. The mere identification of the acronym “EMV” in Fiske for purposes of more easily referring later in Fiske to “examples” of publicly available transaction protocols is not an “incorporation by reference” of those protocols because it does not clearly identify any publication that is explicitly “incorporated” by “reference.” To the extent Petitioner relies on “EMV specifications” as purportedly “incorporated by reference” to show

the unpatentability of any Challenged Claims, Petitioner's contention appears, on the current record, to be fundamentally flawed because they misrepresent Fiske. *See, e.g.*, Pet. 76 (alleging the unpatentability of claims 4 and 20 and purporting to rely on "EMV specifications, which are incorporated by reference" by Fiske).

3. *Claim 1*

Petitioner contends claim 1 is anticipated by, and would have been obvious over, Fiske. Pet. 66–74. Patent Owner disputes Petitioner's contentions with regard to limitations 1.A-2, 1.A-3, 1.C, and 1.E-1. Prelim. Resp. 31–54.

[1.A-2] the application interrogable by an electronic reader, over a first communications channel, for digital credential data corresponding to an account having a corresponding digital credential and

Petitioner contends Fiske discloses a "mobile payment application" that "is interrogable by an electronic reader, such as the POS terminal, over a first communications channel (*e.g.*, NFC) for digital credential data." Pet. 66 (citing Ex. 1012, 2:18–26, 11:38–40, 11:45–48, 12:9–24). Petitioner also contends Fiske discloses the POS terminal issues "a 'READ RECORD' command to the payment device to 'read all of the transaction related data parameters' from the device, including the primary account number (PAN)." *Id.* at 66–67 (quoting Ex. 1012, 3:32–33) (citing Ex. 1012, 2:63–67, 3:26–46, 5:28–30).

Patent Owner argues that Petitioner fails to show that Fiske discloses "digital credential data corresponding to an account having a corresponding digital credential." Prelim. Resp. 38. In particular, Patent Owner asserts that the relied upon portions of Fiske "describe communication between a terminal and an ICC," (*id.* at 39), and argues that Petitioner fails to present

“evidence or argument that Fiske’s user device interacts with a POS terminal in the same way an ICC does, or that in Fiske’s payment system, a POS terminal would issue commands to the user device identical to the commands normally issued to the ICC” (*id.* at 41). On the current record, we disagree with Patent Owner that Petitioner was required to explain in the Petition that “Fiske’s user device interacts with a POS terminal in the same way an ICC does” or in Fiske “a POS terminal would issue commands to the user device identical to the commands normally issued to the ICC.” The Petition discusses Figure 5 of Fiske. Pet. 68. Figure 5 of Fiske shows an electronic payment system with user device 502 in communication with terminal 504 at a point of sale. Ex. 1012, 11:34–44. Although the Petition divides limitations in to multiple subsegments (i.e., 1.A-1, 1.A-2, 1.A-3, 1.A-4) we consider Petitioner’s contentions as to all of the limitations of claim 1, as a whole, not as though arguments made in regard to a portion of claim 1 have not bearing on what Petitioner identifies as a sub-limitation of claim 1, such as limitation 1.A-2.

[1.A-3] configured to request, from a remote computer system hosting the corresponding digital credential, over a wireless network that is separate from the first communications channel, data associated with the account and

Petitioner contends Fiske discloses a separate wireless communications interface 510 between a user device and an issuing bank that is different than communications interface 508 between a user device and a POS terminal. Pet. 67–68 (citing Ex. 1012, 11:45–50, 11:53–57, 13:59–67, 17:52–61, Fig. 5). Moreover, Petitioner contends certain “payment keys or session keys are provisioned or requested to the user

device from the issuing bank.” *Id.* at 68 (citing Ex. 1012, 13:20–31, 13:63–67).

Patent Owner argues Petitioner fails to show Fiske discloses “a remote computer system hosting the corresponding digital credential” by not identifying any such remote computer system in Fiske. Prelim. Resp. 45. Patent Owner further argues that Petitioner fails to show Fiske discloses an application that is “configured to request . . . data associated with the account,” because, while Fiske provisions ICC Session Keys to a user device, it “says nothing about the mobile application making a *request* for any session key.” *Id.* at 46–48. We disagree with Patent Owner’s arguments on the current record because Fiske appears to disclose a “bank” that comprises a remote computer, enabling communication with the user device, and Fiske describes the user device may “request a new ICC session key when all of the available ICC Session Keys have been used.” *See, e.g.*, Ex. 1012, 11:45–57, 14:21–34.

[1.C] receiving by the application, from the remote computer system, over the wireless network, the first set of data associated with the account, the first set of data associated with the account usable by the application to formulate an application protocol data unit response, the first set of data comprising a first non-permanent cryptographic key associated with the account;

Petitioner contends Fiske discloses this element for the same reasons provided for elements [1.A-3] and [1.B]. *See* Pet. 70. Patent Owner argues Petitioner fails to show how Fiske’s “ICC Session Key is ‘usable by the application to formulate an application data unit response,’ as limitation [1.C] recites.” Prelim. Resp. 51. In particular, Patent Owner argues that Petitioner first mentions the term “application protocol data unit response” with respect to limitation

[1.E], but that this fails to meet Petitioner’s burden regarding limitation [1.C], and that, in any case, in the limitation [1.E] discussion fails to provide “argument or evidence linking [the proffered] purported knowledge in the art of application protocol data units to Fiske’s ICC Session Key or to Fiske’s mobile application.” *Id.* at 52–53. The Petition, however, explains in regard to limitation [1.E] that it was well-known in the art that during the interrogation the terminal and card communicate “in command- and response- application protocol data units.” Pet. 71 (citing Ex. 1006 ¶ 177); Ex. 1037, 46–48.

[1.E-1] receiving at least one POS command communication sent by the POS terminal over the first communications channel, wherein the at least one POS command communication comprises a request for digital credential data to authorize a transaction against the account, the request for digital credential data including a cryptogram request;

Petitioner contends Fiske discloses “a POS terminal requests payment credential data from the payment device/card.” Pet. 71 (Ex. 1012, 9:42–45). More specifically, Petitioner asserts that Fiske discloses that “[t]he Application Cryptogram is requested during the EMV transaction between the user device and the POS terminal,” and in particular, that “[i]n order to respond to a GENERATE AC command issued by the terminal, the ICC must produce an Application Cryptogram’ using the single-use key.” *Id.* (quoting Ex. 1012, 8:20–22) (citing Ex. 1012, 6:54–57, 7:30–41, 8:64–67).

Patent Owner argues that Petitioner fails to show Fiske discloses the command sent by the POS terminal uses NFC communications, which Petitioner alleges to be the first communications channel. Prelim. Resp. 32–33. According to Patent Owner, “[t]here is simply no support in any of what

Petitioner cited for the notion that NFC is used for ‘at least one command communication sent by the POS terminal’ and received by the ‘application.’” *Id.* at 34. Fiske, however, makes clear that the user device can communicate with the POS terminal “via a short range communication protocol, such as NFC.” Ex. 1012, 11:45–48. Moreover, claim 1 does not require the use of NFC.

4. *Claims 2–33*

Petitioner contends claims 2–33 are anticipated by, and would have been obvious over, Fiske. Pet. 75–84. Patent Owner disputes Petitioner’s contentions with regard to limitations 1.A-2, 1.A-3, 1.C, and 1.E-1. Prelim. Resp. 31–54. Patent Owner does not raise any additional arguments in opposition to Petitioner’s contentions directed to these claims beyond the arguments Patent Owner raises with regard to claim 1. *See* Prelim. Resp. 34–37, 43–44, 49–50, 53–54.

5. *Determination of a Reasonable Likelihood of Prevailing*

Having already determined above that Petitioner made the necessary showing to support institution based on its allegations of obviousness over Collinge, we need not resolve whether Petitioner has made the necessary showing based on Fiske. *See PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (stating that the decision whether to institute *inter partes* review requires “a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition”).

IV. CONCLUSION

For the foregoing reasons, we determine that Petitioner demonstrates a reasonable likelihood of prevailing with respect to at least one of the Challenged Claims in the Petition based on obviousness over Collinge. Accordingly, *inter partes* review of the ’171 patent shall proceed in this case

on all of the grounds raised in the Petition. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018) (holding that a decision to institute under 35 U.S.C. § 314 may not institute on fewer than all claims challenged in the petition);

Our determination in this Decision is not a final determination on either the patentability of any challenged claims or the construction of any claim term. The factual findings set forth in this Decision are preliminary and provided for the sole purpose of deciding whether to institute a review. Any final findings will be based on the full trial record, including any information presented by Patent Owner in a timely filed response to the Petition. *See Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016) (noting that “there is a significant difference between a petitioner’s burden to establish a ‘reasonable likelihood of success’ at institution, and actually proving invalidity by a preponderance of the evidence at trial”) (quoting 35 U.S.C. § 314(a) and comparing *id.* with § 316(e)).

IV. ORDER

Upon consideration of the record before us, it is:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–33 of U.S. Patent No. 10,032,171 B2 is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of U.S. Patent No. 10,032,171 B2 shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

IPR2023-01289
Patent 10,032,171 B2

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