

IN THE 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

U.S. Patent No. 10,032,171

Inter Partes Review No. IPR2023-01289

**PETITIONER'S RESPONSE TO PATENT OWNER'S REQUEST FOR
DIRECTOR REVIEW**

Mail Stop PATENT BOARD
Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, Virginia 22313-1450

Submitted Electronically

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EXHIBIT LIST

Exhibit No.¹	Description
1001	U.S. Patent No. 10,032,171 (the “’171 Patent”)
1002	File History of the ’171 Patent
1003	U.S. Provisional App. No. 61/685,863
1004	U.S. Provisional App. No. 61/573,476
1005	U.S. Provisional App. No. 61/575,846
1006	Expert Declaration of Stuart Fiske
1007	Curriculum Vitae of Stuart Fiske
1008	Reserved
1009	U.S. Provisional App. No. 61/619,095 (“the ’095 Provisional”)
1010	U.S. Provisional App. No. 61/635,248 (“the ’248 Provisional”)
1011	U.S. Publication No. 2013/0262317 A1 to Collinge (“Collinge”)
1012	U.S. Patent No. 11,080,693 to Fiske (“Fiske”)
1013	Reserved
1014	U.S. Patent Publication No. 2010/153721 A1 to Mellqvist
1015	U.S. Patent Publication No. 2010/0252624
1016	U.S. Patent Publication No. 2012/0011070 A1 to Ward
1017	Reserved
1018	Declaration of Brian Byrne (“Byrne Declaration”)
1019	<i>EMV Integrated Circuit Card Specifications for Payment Systems, Book 1: Application Independent ICC to Terminal Interface Requirements</i> , Version 4.2 (June 2008) (Attachment A to Byrne Declaration)
1020	<i>EMV Integrated Circuit Card Specifications for Payment Systems, Book 2: Security and Key Management</i> , Version 4.2 (June 2008) (Attachment B to Byrne Declaration)
1021	<i>EMV Integrated Circuit Card Specifications for Payment Systems, Book 3: Application Specification</i> , Version 4.2 (June 2008) (Attachment C to Byrne Declaration)

¹ Citations to patents are made by column and line cite; citations to patent publications are made by paragraph number; citations to other exhibits are made with reference to the Bates-stamped pagination or inherent section numbers.

Exhibit No.¹	Description
1022	<i>EMV Integrated Circuit Card Specifications for Payment Systems, Book 4: Cardholder, Attendant, and Acquirer Interface Requirements</i> , Version 4.2 (June 2008) (Attachment D to Byrne Declaration)
1023	<i>EMV® Contactless Specifications for Payment Systems, Book A: Architecture and General Requirements</i> , Version 2.1 (March 2011) (Attachment E to Byrne Declaration)
1024	<i>EMV® Contactless Specifications for Payment Systems, Book B: Entry Point Specification</i> , Version 2.1 (Attachment F to Byrne Declaration)
1025	<i>EMV® Contactless Specifications for Payment Systems, Book C-1: Kernel 1 Specification</i> , Version 2.1 (March 2011) (Attachment G to Byrne Declaration)
1026	<i>EMV® Contactless Specifications for Payment Systems, Book C-2: Kernel 2 Specification</i> , Version 2.1 (March 2011) (Attachment H to Byrne Declaration)
1027	<i>EMV® Contactless Specifications for Payment Systems, Book C-3: Kernel 3 Specification</i> , Version 2.1 (March 2011) (Attachment I to Byrne Declaration)
1028	<i>EMV® Contactless Specifications for Payment Systems, Book C-4: Kernel 4 Specification</i> , Version 2.1 (March 2011) (Attachment J to Byrne Declaration)
1029	<i>EMV® Contactless Specifications for Payment Systems, Book D: EMV Contactless Communication Protocol Specification</i> , Version 2.1 (March 2011) (Attachment K to Byrne Declaration)
1030	Reserved
1031	Reserved
1032	Expert Declaration of Dr. Sylvia Hall-Ellis dated August 11 (“Hall-Ellis Declaration”) and Attachments
1033	Curriculum Vitae of Dr. Sylvia Hall-Ellis
1034	Carl H. Meyer, Stephen M. Matyas, <i>Cryptography: A New Dimension In Computer Data Security. A Guide for the Design and Implementation of Secure Systems</i> (1982)
1035	Reserved
1036	Reserved

Exhibit No.¹	Description
1037	Cristian Radu, <i>Implementing Electronic Card Payment Systems</i> (2003)
1038	Reserved
1039	Kefa Rabah, <i>Theory and Implementation of Data Encryption Standard: A Review</i> , Inform. Technol. J., 4: 307-325 (Apr. 2005)
1040	Smart Card Alliance, <i>Card Payments Roadmap in the United States: How Will EMV Impact the Future Payments Infrastructure?</i> A Smart Card Alliance Payments Council White Paper (Feb. 2011)
1041	Dom Morea, <i>EMV in the U.S.: Putting It into Perspective for Merchants and Financial Institutions, A First Data White Paper</i> (2011)
1042	EMVCo FAQ webpage (Aug. 3, 2023, 11:43 AM), https://web.archive.org/web/20110920080137/http://www.emvco.com/faq.aspx?id=37
1043	Newton's Telecom Dictionary (25th ed. 2009)
1044	Ofcom: <i>Mobile not-spots. An update on our research</i> (Nov. 5, 2010)
1045	<i>OV Loop, Inc. v. Mastercard Inc.</i> , No. 7:23-cv-01773-CS, D.I. 31 (S.D.N.Y. June 8, 2023)
1046	Mike Clark, <i>SimplyTapp picks up contactless payments award</i> , NFCW (Aug. 25, 2015), https://www.nfcw.com/2015/08/25/337201/simplytapp-picks-up-contactless-payments-award/
1047	Payal Shukla, Jim Jarvie, <i>SimplyTapp Wins Best Contactless Payments Solution as Future Digital Awards</i> (Aug. 13, 2015), https://www.prweb.com/releases/2015/08/prweb12903489.htm
1048	U.S. Patent Pub. No. 2010/0190437A1
1049	Transcript of Deposition of Stuart Fiske
1050	Supplemental Expert Declaration of Stuart Fiske
1051	Transcript of Deposition of Chuck Easttom
1052	U.S. Patent No. 10,956,899
1053	U.S. Patent No. 8,370,258
1054	U.S. Patent No. 7,357,309
1055	U.S. Patent No. 6,718,314
1056	U.S. Patent Publication No. 20070012763

Exhibit No.¹	Description
1057	U.S. Patent Publication No. 20030097344
1058	PayPass – Mag Stripe Technical Specifications, Version 3.3, December 2007
1059	PayPass – M/Chip 4 Card Technical Specification, Version 1.3.1 - September 2008
1060	U.S. Patent Publication No. 20120160921
1061	U.S. Patent No. 10,902,399
1062	U.S. Patent Publication No. 20120185394
1063	International Standard ISO/IEC 14443-4 (2008)
1064	International Standard ISO/IEC 7816-4 (2005)
1065	International Standard ISO/IEC 7813 (2006)

I. INTRODUCTION

The Board correctly concluded that Petitioner Mastercard’s own patent (“Collinge”) disclosing the very product that Patent Owner (“PO”) has accused of infringement in the stayed-parallel district court proceeding² rendered PO’s later claims unpatentable. PO’s Request for Director Review (“Request,” Paper 39) should be denied because it fails to demonstrate any abuse of discretion or erroneous findings of material fact. The Request relies on misleading assertions about the content of the Petition and otherwise relies on arguments squarely rejected by the Board supported by the record evidence.

II. ARGUMENT

A. PO’s Argument Is Based on Mischaracterizations of the Petition

PO’s arguments in the Request involve the “remote computer system” in Claim 10 of the challenged U.S. Patent No. 10,032,171 (“’171 Patent”), and Claims 11-13, 27, 28-30 that depend on or mirror the relevant claim language. PO’s argument is premised on the (at best) misleading assertion that the Petition mapped certain portions of element [10.A] to Collinge’s acquirer processing server 312. Request at 7. Indeed, the Request goes so far as to insert quotation marks around text

² See Ex[1045] at 3 (accusing alleged Host Card Emulation (“HCE”) specifications of Mastercard).

purportedly in the Petition, asserting: “*the Petition relies on Collinge’s disclosure that* ‘[t]he merchant point-of-sale terminal 120 may transmit the received payment information...to **the acquirer processing server 312 of the acquirer 122.**’ *See Pet. 58* (citing Ex1011 [0077])” *Id.* (bold italicization supplied, red in original).

However, the purported quoted language with the portion in red does not come from the Petition. Indeed, neither the Petition, nor Reply (Paper 26), nor even Petitioner’s supporting expert declaration (Ex[1006]) ever mentions the “acquirer processing server 312.” Instead, the Board correctly concluded that Petitioner relied solely on functions performed by “aspects of the Collinge computer system...shown in the annotated version of Collinge Figure 7 provided by Petitioner in Reply,” (which PO refers to as the “Blue-Box Structures”). Paper 37 (“FWD”) at 57.

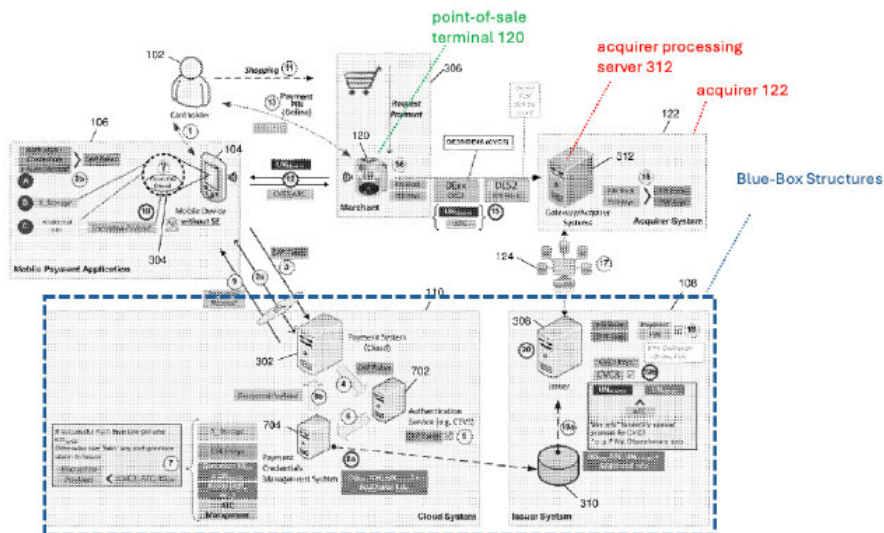


FIG. 7

Contrary to PO’s suggestion, the Petition explicitly relies on the authorization request being received by the *issuer’s system* (which is in the Blue-Box), explaining

that it would be the “issuer” that would “authorize the transaction and associate it with the correct account.” Paper 1 (“Pet.”) at 59. There is no ambiguity about this mapping, which is confirmed by the Petition’s discussion of the remaining claim 10 elements, where Petitioner repeatedly relies on the “issuer” or “issuer processing server 308” to “validate” the received authorization request. *Id.* at 59-60. The Board clearly understood this mapping, finding, in response to PO’s other arguments related to claim 10, that Collinge’s “issuer processing server” performed the functions of the remote computer system recited in claim 10. *See* FWD at 57-59. Indeed, PO’s own Patent Owner Response shows that it understood Petitioner also relied on the “issuer processing server 308.” Paper 22 (“POR”) at 32.

PO’s assertion that the “Petition does not present any argument or evidence that each limitation of claim 10 is performed by the Blue-Box Structures” (Request at 7) is similarly meritless. To the extent this assertion is directed to element 10.A’s recitation of “receiving an authorization request”—which is the only element PO expressly mentions in its Request³—the Petition cited Collinge’s paragraph [0077],

³ The Board correctly found all of the contested aspects of claim 10 were performed by Collinge’s issuer system (FWD at 57-59), supported by citations to Collinge and Petitioner’s argument, which the Board expressly “adopt[ed] as [its] own.” FWD at 56, 59.

which the Request itself acknowledges. Request at 7. That paragraph [0077] of Collinge explicitly explains how an authorization request is transmitted through “the payment network 124...to the issuer processing server” for authorization processing. Pet. at 58 (citing Ex[1011] ¶[0077]). As annotated Fig. 7 above shows, the “Issuer system” is entirely within the Blue-Box Structures, specifically including the bottom right of the figure.

Thus, PO’s argument that the Board “did not consider” that Petitioner mapped portions of the remote computer system to portions outside the “Blue-Box Structures” is based on a false premise. Because the Petition mapped functionalities of the remote computer system in claim 10 entirely to structures within the Blue-Box Structures, the Board did not err.

B. The Board Correctly Concluded That Collinge’s Blue-Box Structures Are a “Remote Computer System”

PO next argues in conclusory fashion that “Petitioner has presented no argument or evidence that [the relevant Collinge components] together constitute a single ‘remote computer system.’” Request at 9. This argument is also meritless. Petitioner argued in the Petition that the relevant functionality of the “remote computer system” were in Collinge’s “cloud system” and the “issuer processing server” cooperating to carry out the claims. Pet. at 27-28, 39, 43. Petitioner expressly relied on Figure 7 of Collinge which shows a “connection 178” between those

structures. *See also id.* at 40 (annotated Figure depicting second communication channel to the cloud server). In reply, Petitioner’s expert further explained that the term “‘computer system’ is a very loose term and there is no fixed number of computers that *one computer system* can or should include,” further confirming that Petitioner’s mapping of the connected computers in the Blue-Box constituted a single “remote computer system.” Ex[1050] ¶¶ 43-44 (emphasis supplied).

The Board explicitly addressed and rejected PO’s argument on this point, concluding that Petitioner and its expert did not “rel[y] on ‘different’ remote computer systems... .” FWD at 57, citing Pet. Reply 18. Notably, page 18 of Petitioner’s Reply, cited by the Board for this point, itself cites Dr. Fiske’s testimony at paragraph 44 of Ex[1050], discussed above.

Accordingly, there is no ambiguity that Petitioner submitted sufficient argument and evidence showing the connected computers in the “Blue-Box” were a single remote computer system, and the Board properly credited that evidence, rejected PO’s unsupported arguments to the contrary, and found that Collinge invalidated PO’s claims.

III. CONCLUSION

Because PO’s arguments are without merit, its Request should be denied.

Respectfully,

April 28, 2025

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Petitioner Response to PO Request for Director Review
IPR2023-01289

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CERTIFICATE OF SERVICE

The undersigned hereby certifies on this 28th day of April, 2025, that a true and correct copy of the foregoing Petitioner's Response to Patent Owner's Request for Director Review was served on the following parties via electronic mail:

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CERTIFICATE OF COMPLIANCE

1. This Petition complies with the page volume limitation of five (5) pages, excluding the parts exempted by 37 C.F.R. §42.24(a).
2. This Petition complies with the general format requirements of 37 C.F.R. §42.6(a) and has been prepared using Microsoft® Word 2016 in 14-point Times New Roman.

Respectfully submitted,

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