IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PAYPAL HOLDINGS, INC., AND PAYPAL, INC.
Petitioners,

v.

FINTIV, INC.
Patent Owner.

Case No. IPR2023-00744
U.S. Patent No. 8,538,845

PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,538,845

TABLE OF CONTENTS

Page

I. INTRODUCTION 1
II. BACKGROUND OF THE TECHNOLOGY 1
A. Prior Art Electronic Payment Systems 2
III. Requirements for *Inter Partes* Review 4
A. Certification 5
B. Identification of Challenges 5
IV. The '845 Patent 6
A. Effective Filing Date 6
B. Level of Ordinary Skill in the Art 6
C. Overview of the '845 patent 6
1. *Disclosure relevant to Independent Claim 5* 9
2. *Disclosure relevant to Independent Claim 1* 10
D. Relevant Prosecution History 12
V. Claim Construction 15
A. Legal Standard for Claim Construction 15
B. District Court Claim Construction 16
C. Claim Terms Requiring Construction 16
1. "unbanked subscriber" 16
2. "wherein performing the specified transaction includes communicating with a monetary transaction database to determine whether the transaction is permissible based on data indicated in the [unbanked] subscribers' profile" 16
3. "validating the status of the specified recipient to ensure the specified recipient has a valid mobile wallet account" (claim 5) 17
4. "validating the status of the unbanked subscriber's mobile wallet account" (claim 1) 19
VI. Detailed Discussion of the Grounds for Unpatentability 20
A. Overview of the Principal Prior Art 21

1. Tumminaro (Ex-1005) 21
2. Keena (Ex-1006) 23
3. Motivations to Combine Tumminaro and Keena 24
B. Ground 1: Claims 5 and 7 Are Anticipated by Tumminaro.....29
1. Claim 5 29
a. [Preamble]: "A monetary transaction system for conducting monetary transactions between unbanked subscribers and other entities, the system comprising:" 29
b. [5a]: "a mobile device configured to run a monetary transaction system application;".....31
c. [5b]: "a monetary transaction system subscriber that has a profile with the monetary transaction system, wherein the subscriber indicates, via the monetary transaction system application, one or more specified transactions that are to be performed using the monetary transaction system;" 32
d. [5c]: "a monetary transaction system processor that performs the one or more transactions specified by the subscriber, wherein performing the specified transactions includes communicating with a monetary transaction database to determine whether the transaction is permissible based on data indicated in the subscriber's profile;".....34
e. [5d]: "at least one entity that is to be involved in the specified transaction, the at least one entity having a profile with the monetary transaction system; and".....39
f. [5e]: "wherein the monetary transaction system is implemented to transfer money between mobile wallets, including performing the following steps;" 39
g. [5f]: "receiving subscriber communication over one of a plurality of channels connected to the monetary transaction system, the subscriber communication indicating that an unbanked subscriber desires to transfer a specified amount of

funds to specified recipient using a specified payment method from the subscriber's mobile wallet;" 40

h. [5g]: "validating the status of the selected payment method;" 43

i. [5h]: "performing at least one of a limit check and a velocity check on the selected payment method, the limit check determining whether sufficient funds are available to make the deposit amount, the velocity check determining whether the unbanked subscriber has exceeded a specified number of transactions within a specified time period;" 45

j. [5i]: "validating the status of the specified recipient to ensure the specified recipient has a valid mobile wallet account;" 47

k. [5j]: "debiting the specified payment method by the specified amount of funds;" 48

l. [5k]: "transferring the specified amount of funds to the specified recipient over at least one of the plurality of channels connected to the monetary transaction system;" 49

m. [5l]: "notifying the unbanked subscriber that the specified amount of funds was transferred to the specified recipient over at least one of the plurality of channels connected to the monetary transaction system." 51

2. Claim 7: "*The monetary transaction system of claim 5, wherein the money is transferred internationally between the mobile wallets."* 51

C. Ground 2: Claims 5-7 Are Rendered Obvious over Tumminaro and the Background Knowledge of a POSA 52

1. [5f]: "receiving subscriber communication over one of a plurality of channels connected to the monetary transaction system, the subscriber communication indicating that an unbanked subscriber desires to transfer a specified amount of funds to specified recipient using a

specified payment method from the subscriber's mobile wallet;" 52

2. [5l]: "notifying the unbanked subscriber that the specified amount of funds was transferred to the specified recipient over at least one of the plurality of channels connected to the monetary transaction system." 54

3. Claim 6: "The monetary transaction system of claim 5, wherein validating the status of the specified recipient comprises performing a check on the specified recipient to comply with the office of foreign assets control." 55

D. Ground 3: Claims 1-3 Are Rendered Obvious over Tumminaro, Keena, and the Background Knowledge of POSA 56

1. Claim 1 56

a. [Preamble]: "A monetary transaction system for conducting monetary transactions between unbanked subscribers and other entities, the system comprising:" 56

b. [1a]: "a mobile device configured to run a monetary transaction system application;" 56

c. [1b]: "an unbanked monetary transaction system subscriber that has a profile with the monetary transaction system, wherein the unbanked subscriber indicates, via the monetary transaction system application, one or more specified transactions that are to be performed using the monetary transaction system;" 57

d. [1c]: "a monetary transaction system processor that performs the one or more transactions specified by the unbanked subscriber, wherein performing the specified transactions includes communicating with a monetary transaction database to determine whether the transaction is permissible based on data indicated in the unbanked subscriber's profile;" 57

e. [1d]: "at least one entity that is to be involved in the specified transaction, the at least one entity

having a profile with the monetary transaction system; and”.....57

f. [1e]: “wherein the monetary transaction system is implemented to deposit funds at an agent branch through a mobile wallet, including performing the following steps:”.....57

g. [1f]: “receiving communication from an agent branch over one of a plurality of channels connected to the monetary transaction system, the agent communication indicating that the unbanked subscriber desires to deposit a specified amount of funds into the unbanked subscriber's mobile wallet account;”.....59

h. [1g]: “validating the status of the unbanked subscriber’s mobile wallet account;”.....62

i. [1h]: “determining if the agent branch is authorized to receive deposited money;”.....63

j. [1i]: “performing one or more of a limit check and a velocity check on the unbanked subscriber's mobile wallet account, the limit check determining whether sufficient funds are available to make the deposit amount, the velocity check determining whether the unbanked subscriber has exceeded a specified number of transactions within a specified time period;”.....65

k. [1j]: “crediting the unbanked subscriber's mobile wallet account with the specified amount of funds when the agent bank is authorized to receive the deposited money;”.....66

l. [1k]: “returning a notification to the agent branch confirming the deposit; and”.....67

m. [1l]: “notifying the subscriber that the specified amount of funds was deposited in the unbanked subscriber's mobile wallet account over at least one of the plurality of channels connected to the monetary transaction system.”.....68

2. Claim 2: "*The monetary transaction system of claim 1, wherein the monetary transaction system application provides a web interface that allows subscribers to perform the same functions provided by the monetary transaction system application.*".....70

3. Claim 3: "*The monetary transaction system of claim 1, wherein the monetary transaction system application is provided on a prepaid or postpaid phone.*".....71

E. Fintiv Has Not Identified Any Secondary Considerations of Nonobviousness.....72

VII. The Parallel District Court Proceeding Does Not Warrant a Discretionary Denial.....72

VIII. Mandatory Notices.....75

A. Real Parties-in-Interest.....75

B. Related Proceedings.....75

C. Lead and Backup Counsel.....76

D. Electronic Service.....77

IX. Fees.....77

X. Conclusion.....77

TABLE OF ABBREVIATIONS AND CONVENTIONS

Petitioners	PAYPAL HOLDINGS, INC. AND PAYPAL, INC. ("PayPal")
Patent Owner	FINTIV, INC. ("Fintiv")
'988 Patent	U.S. Patent No. 8,538,845 (the patent being challenged herein)
Challenged Claims	Claims 1-3 and 5-7
POSA	Person of Ordinary Skill in the Art
FICs	Plaintiff's February 17, 2023 Final Infringement Contentions (Ex-1011)

PETITIONERS' EXHIBIT LIST

Ex- No.	Brief Description
1001	U.S. Patent No. 8,538,845
1002	File History of U.S. Patent No. 8,538,845
1003	Declaration of Dr. Sandeep Chatterjee
1004	*Curriculum Vitae* of Dr. Sandeep Chatterjee
1005	US Publication No. 2007/0255620 ("Tumminaro")
1006	US Publication No. 2006/0253335 ("Keena")
1007	U.S. Publication No. 2011/0137789 ("Kortina")
1008	US Publication No. 2008/0270246 ("Chen")
1009	Original Complaint for Patent Infringement in *Fintiv, Inc. v. PayPal Holdings, Inc.*, 6:22-cv-00288-ADA (W.D. Tex.)
1010	Proof of Service of Complaint for Patent Infringement in *Fintiv, Inc. v. PayPal Holdings, Inc.*, 6:22-cv-00288-ADA (W.D. Tex.)
1011	Fintiv's Final Infringement Contentions Claim Chart for U.S. Patent No. 8,538,845 in *Fintiv, Inc. v. PayPal Holdings, Inc.*, 6:22-cv-00288-ADA (W.D. Tex.) ("FICs")
1012	Final Claim Constructions of the Court in *Fintiv, Inc. v. PayPal Holdings, Inc.*, 6:22-cv-00288-ADA (W.D. Tex.)
1013	"Social Payment Startup Venmo Raised $1.2 Million And Has A New iPhone App," published September 16, 2010, available at https://techcrunch.com/2010/09/16/venmo-1-2-million-iphone/
1014	Plaintiff Fintiv, Inc.'s Proposed Terms for Construction, 6:22-cv-00288-ADA (W.D. Tex.)

Ex- No.	Brief Description
1015	"Green Dot and Chase Paymentech Offer Merchants an Alternative Cash Payment Solution," published October 2007, available at https://www.digitalcommerce360.com/2007/10/18/green-dot-and-chase-paymentech-offer-merchants-an-alternative-ca/
1016	"PayPal Launches Revamped iPhone App, Teams With Bump For Phone-Tapping Money Transfers," published March 2010, available at https://techcrunch.com/2010/03/15/paypal-iphone-app-bump
1017	Green Dot Money Pak "Using MoneyPak," available at https://web.archive.org/web/20110129061302/https://www.moneypak.com/
1018	Green Dot Money Pak "How Adding Funds to PayPal Works," available at https://web.archive.org/web/20111009200217/https://www.moneypak.com/PayPal/Index.aspx
1019	Office of Foreign Assets Control (OFAC) – Sanctions Programs and Information, available at https://home.treasury.gov/policy-issues/office-of-foreign-assets-control-sanctions-programs-and-information
1020	Prior et al., "BANKING THE UNBANKED USING PREPAID PLATFORMS AND MOBILE TELEPHONES IN THE UNITED STATES, Working Paper WP-839" IESE Business School, University of Navarra, January 2010.
1021	"Mobile Money for the Unbanked" produced as PAYPAL-FINTIV00004567
1022	2009 MIT Sloan article, "The Economics of M-PESA." Produced as PAYPAL-FINTIV000004407
1023	PAYPAL-FINTIV000006705: "PayPal Application Available on Apple App Store at Launch," July 10, 2008, available at:

Ex- No.	Brief Description
	https://newsroom.ie.paypal-corp.com/2008-07-10-PayPal-Application-Available-on-Apple-App-Store-at-Launch
1024	Bànegns et al., Mobile Banking – Financial Services for the Unbanked?, The Swedish Program for ICT in Developing Regions (SPIDER), 2008, produced as PAYPAL-FINTIV000004353
1025	Baptista et al., Unleashing the Power of Convergence to Advance Mobile Money Ecosystems, Mobile Money Summit 2010, International Finance Corporation (IFC) and Harvard Kennedy School, 2010, produced as PAYPAL-FINTIV000004435
1026	McGrath, Mobile Money for the Unbanked 101, GSMA, produced as PAYPAL-FINTIV000004507
1027	File History for U.S. Provisional Patent Application No. 61/522,099
1028	Fintiv's March 8, 2023 Response and Objections to Defendant's Interrogatory No. 8
1029	*Fintiv, Inc., v. Apple Inc.,* Case No. 1:21-cv-00896-ADA, Dkt. 441 (W.D. Tex., July 5, 2022)
1030	PAYPAL-FINTIV000004485: "What is a Money Order?", Investopedia.com, 2021, available at https://investopedia.com/terms/m/money-order.asp
1031	PAYPAL-FINTIV000004691: "Who are the Unbanked and Underbanked?", taxoutreach.org, available at https://www.taxoutreach.org/outreach-strategies/asset-development-and-outreach/unbanked/

I. INTRODUCTION

Petitioners request *inter partes* review ("IPR") of claims 1-3 and 5-7 ("Challenged Claims") of U.S. Patent No 8,538,845 ("'845 Patent"). The claims of the '845 patent are directed to a monetary transaction system that performs basic banking transactions using a mobile wallet, *e.g.* the deposit of funds into a user's account (claim 1), a withdrawal of funds from a user's account (claim 4), and the transfer of money from one account to another (claim 5). The performance of these fundamental banking transactions using a "mobile wallet" was commonplace in the industry years before the '845 patent's earliest claimed priority date.

The '845 patent was allowed based on the examiner amending independent claim 1 to recite "when the agent bank is authorized to receive the deposited money" Ex-1002 at 1171, 1173. While this limitation is not present in claim 5 of the '845 patent, the examiner allowed all independent claims after amending claim 1.

II. BACKGROUND OF THE TECHNOLOGY

The '845 patent claims priority to two different provisional applications, the earliest of which was filed on June 3, 2011. This overview describes the state of the art prior to June 3, 2011.

A. Prior Art Electronic Payment Systems

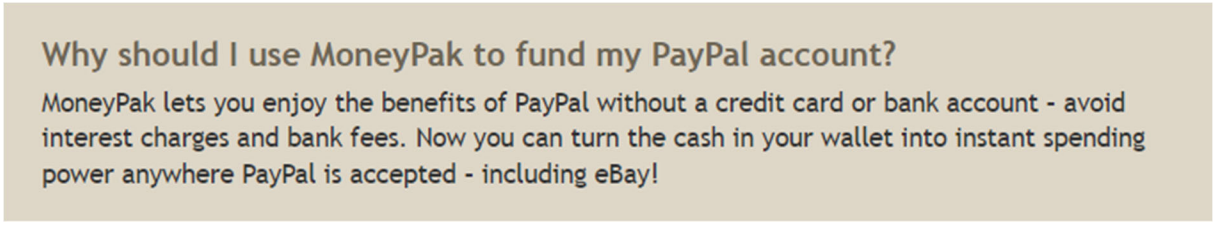
The use of mobile wallets, including for electronically transferring funds and loading funds onto accounts from agent branches, were well-known and ubiquitous before the priority date of the ’845 patent.

For example, in 2010, Venmo (which was acquired by Petitioners in 2013) provided a widely used mobile wallet application that permitted users to send payments to “friends through text messages and mobile apps.” Ex-1013. Venmo’s application was widely in use before the priority date of the ’845 patent and permitted users with credit cards or bank accounts to send and receive money. *Id*.

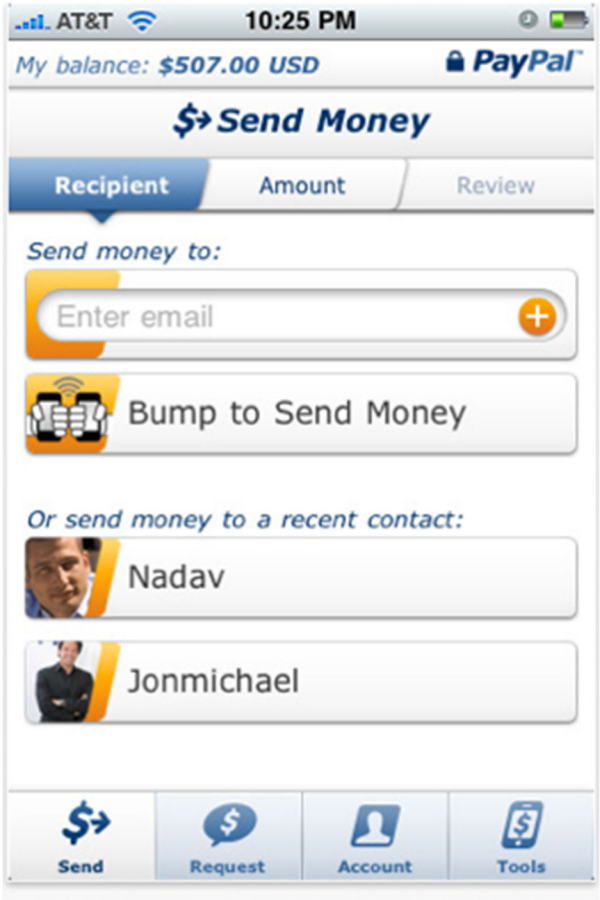
In December 2009, Venmo’s founder, Andrew Kortina, filed for a patent on Venmo’s payment system, which published as U.S. Publication No. 2011/0137789. *See* Ex-1007. Kortina describes a “trust based transaction system” that permits peer-to-peer transactions initiated via SMS messages. The system may maintain “user profiles” for each individual that permit the evaluation of the trustworthiness of each individual. Kortina describes the concept of performing a velocity check — the profile can store information pertaining to “a number of transactions and aggregate dollar amount,” “represented over time,” that a user has performed, and such information can be utilized to determine “a confidence level” of a particular transaction. Ex-1007, [0090] and [0012]-[0014].

Petitioners provided a mobile wallet that could be used by users without a bank account. For example, PayPal permitted unbanked users to load funds into their PayPal account (available via a mobile/smartphone application) using a Greendot MoneyPak prepaid card, which users could purchase, with cash, at retail locations:

Ex-1017.



Ex-1018. *See also* Ex-1015. And, PayPal members, having a PayPal account, could send money to other members via a mobile app on iPhone or Android before the priority date of the '845 patent:



Ex-1016. Numerous other prior art references also disclosed limit and velocity checks. *See, e.g.,* Ex-1008, [0086], Ex-1003, ¶¶ 57-58.

III. Requirements for *Inter Partes* Review

This Petition complies with all statutory requirements, as well as 37 C.F.R. §§ 42.104, 42.105, and 42.15, and should be accorded a filing date pursuant to 37 C.F.R. § 42.106. The required fee is being paid electronically through P-TACTS.

A. Certification

As required by 37 C.F.R. § 42.104(a), Petitioners certify that the '845 patent "is available for inter partes review and that the Petitioners are not barred or estopped from requesting an inter partes review challenging the patent claims on the grounds identified in the petition." Petitioners certify that this Petition is filed within one year of the date of service of the complaint—March 25, 2022. Ex-1010 at 1. Neither Petitioners, nor any party in privity with Petitioners, have filed a civil action challenging the validity of any claim of this patent. Petitioners therefore certify that the '845 patent is available for *inter partes* review.

B. Identification of Challenges

Under 37 C.F.R. §§ 42.104(b) and 42.22, Petitioners request that the Board institute this IPR on the Challenged Claims of the '845 patent and cancel those claims as unpatentable on the following grounds:

Ground	Claims	Basis for Unpatentability
1	5, 7	Anticipation by Tumminaro
2	5-7	Obviousness under 35 U.S.C. § 103 over Tumminaro and Background Knowledge of POSA
3	1-3	Obviousness under 35 U.S.C. § 103 over Tumminaro in view of Keena, and Background Knowledge of POSA

IV. The ’845 Patent

A. Effective Filing Date

The ’845 patent issued from Application No. 13/484,199, filed May 30, 2012, which claims priority to two provisional patent applications: 61/522,099 filed August 10, 2011, and 61/493,064 filed June 3, 2011. For purposes of this Petition, Petitioners assume that the Challenged Claims are entitled to a priority date of June 3, 2011.

B. Level of Ordinary Skill in the Art

As of 2011, a POSA in the ’845 patent’s field would have a working knowledge of mobile payment systems, including of software development for mobile payment systems. Such a POSA would have had a bachelor’s degree in electrical engineering, computer science, or equivalent training, and approximately two years of work experience in software development in the field of mobile payment systems. Lack of work experience can be remedied by additional education, and vice versa. Ex-1003, ¶ 47.

C. Overview of the ’845 patent

The ’845 patent describes a “monetary transaction system” (also referred to as “mobile wallet platform,” “mobile wallet program,” “mobile wallet transaction system,” and “mobile financial services (mFS)” platform) that is capable of performing transactions between “unbanked” subscribers and unspecified “other entities.” Ex-1001 at Abstract, 6:4-7. The ’845 patent explains that the “monetary

transaction system" can be used to perform a variety of generic transactions such as depositing, withdrawing, and transferring funds via a mobile wallet. Ex-1001, 3:51-62.

A "monetary transaction system application" that runs on mobile devices allows subscribers to interact with the monetary transaction system. *Id.*, 12:22-40, 14:5-12. The '845 patent, however, admits that mobile applications were well-known and widely used "to perform a wide variety of network-connected tasks." *Id.*, 1:17-27. The '845 patent further explains that an "unbanked subscriber" is "a subscriber that does not have (or does not have access to) a bank account or credit union account." *Id.*, 12:25-29. The system maintains and manages the balance of mobile wallet accounts for each subscriber as stored value—which the patent refers to as "eMoney"—as funds are transferred from one account to another. *Id.*, 7:55-60, 11:32-42. "A bank account maintained by [a] mFS program partner bank" "provide[s] funds and floats for the operation of the mFS platform." *Id.*, 11:17-19. The "partner bank" "is responsible for holding the mFS program master accounts that hold the funds for all mFS services and transaction." *Id.*, 11:56-59. The "partner bank may elect to maintain a separate bank account for each subscriber and/or agent branch, or a single master account may be established that contains the funds for all of the subscriber mobile wallet and agent branch accounts." *Id.*, 12:5-8. Further, a subscriber can be issued a "(prepaid) debit card" that's

"associated with the mobile wallet application in the subscriber's mobile device," that the subscriber can use to, for example, withdraw funds from an ATM. *Id.*, 25:1-18; 23:7-13.

Independent claims 1, 4, and 5—of which only claims 1 and 5 are challenged—are directed to three fundamental transactions performed by the monetary transaction system: (i) transferring money to another person (claim 5); (ii) depositing money into an account (claim 1); and (iii) withdrawing money from an account (unchallenged claim 4). Both challenged independent claims 1 and 5 require that a subscriber has a "profile" with the monetary transaction system. The specification, however, indicates that the profile merely stores generic identification information[1] and associated financial accounts of the subscriber. *Id.*, 14:2-4. The monetary financial system determines whether a given transfer is permissible based on "data indicated in the unbanked subscriber's profile," such as "whether the subscriber has enough eMoney in his or her stored value account, or has enough money in his or her bank account." *Id.*, 14:19-25. The monetary transaction system can send notifications and other information over generic

[1] The '845 patent refers to this as "know your customer" (KYC) data, but it explains that "[t]he term 'know your customer' or 'KYC' refers to information collected about an individual that identifies that individual." *Id.*, 28:54-65.

communication "channels" including SMS, email, web, point-of-sale, and interactive voice response. *Id.*, 12:53-57, 14:36-41, and Figure 1.

1. *Disclosure relevant to Independent Claim 5*

Figure 5A, shown below, depicts a "subscriber-to-subscriber" eMoney transfer. *Id.*, 17:9-10. In graphic 501, the subscriber "enters some type of identification information identifying subscriber B," and "an amount of money he or she wishes to transfer." *Id.*, 17:10-13. "[I]f there are sufficient funds to complete the transfer," "the monetary transaction system 210 decrements subscriber A's account and credits subscriber B's account (502)." *Id.*, 17:13-18.

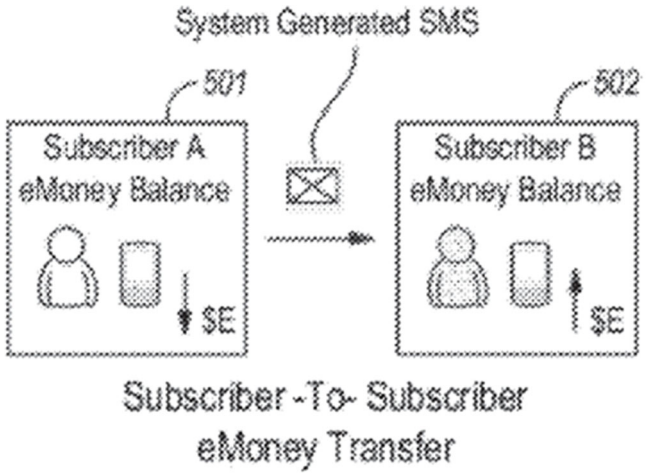


FIG. 5A

Upon completion of the transaction, "[t]he system then sends some kind of notification (*e.g.* SMS)" to subscriber B, "indicating that a certain amount of money was transferred to their account," and a notification to Subscriber A indicating that "that the transfer was successful." *Id.*, 17:15-22. Although not

described in connection with performing a subscriber-to-subscriber transaction, the '845 patent describes that transaction requests can indicate a "specified payment method from the unbanked subscriber's mobile wallet," that the transaction processor can validate the status of the specified payment method, and can perform a limit check (to determine whether sufficient funds are available) and/or a velocity check (to determine whether the user has exceeded a specified number of (hourly, daily, or weekly) transactions) on the specified payment method.[2]

2. *Disclosure relevant to Independent Claim 1*

Figure 3 shown below "illustrate[s] an unbanked subscriber making a deposit using a mobile wallet" at an "agent branch," such as "a retail store, gas station, or other location that has registered to be an agent branch." *Id.*, 15:6-23. "[A]t graphic 301," the "subscriber informs the agent manager or agent that they want to deposit a certain amount of cash." *Id.*, 15:17-23. At graphic 302, "the agent/manager takes the cash and notifies the mobile wallet transaction system of

[2] *See* Ex-1001, 18:61-19:6 (describing a "specified payment method" in connection with topping up a prepaid mobile account from a mobile wallet), *id.*, 15:60-65, *id.*, 19:31-43 (describing a "specified payment method" in connection with paying a bill), *id.*, 20:7-30 (describing a "specified payment method" in connection with making a purchase).

the deposit." *Id.*, 15:23-26. At graphic 303, "the transaction system 210 then credits the subscriber's eMoney account." *Id.*, 15:26-36.

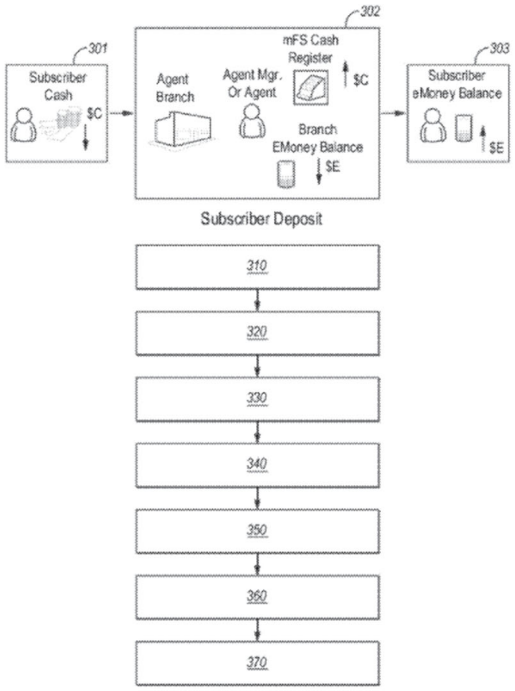


FIG. 3

Figure 3 of the '845 patent describes the steps that correspond to the deposit of funds recited in claim 1. At step 310, the "monetary transaction system [] receives communication from an agent branch over one of the plurality of channels [] connected to the monetary transaction system" that "indicates that the unbanked subscriber 205 desires to deposit a specified amount of funds into the unbanked subscriber's mobile wallet account." *Id.*, 15:49-52. At step 320, a "transaction processor" "validates the status of [the] unbanked subscriber's mobile wallet account" and at step 330 the transaction processor "determines if the agent branch

is authorized to receive deposited money." *Id.*, 15:52-59. At step 340, a "limit check" and/or a "velocity check" can be performed. *Id.*, 15:60-65. At step 350, "the transaction system then credits the unbanked subscriber's mobile wallet account with the specified amount of funds," and at step 360, "returns a notification to the agent branch confirming the deposit." *Id.*, 15:66-16:2. Finally, at step 370, the subscriber can be notified "that the specified amount of funds was deposited in the [sic] their mobile wallet account." *Id.*, 16:2-5.

D. Relevant Prosecution History

Critically, claims of the '845 patent were allowed with minimal substantive examination. The '845 patent was filed on May 30, 2012 (Application No. 13/484,199 (the 199 application") with 20 claims. Ex-1002 at 1316-1332. The examiner rejected all 20 claims in a December 26, 2012 office action. Ex-1002 at 1191-1221. The examiner did not state that any dependent claim would be allowable if incorporated into an independent claim. *Id.*

In response, the applicant incorporated the subject matter of originally filed dependent claim 7 (claiming depositing funds at an agent branch) into independent claim 1, incorporated the subject matter of originally filed dependent claim 8 (claiming withdrawing funds at an agent branch) into independent claim 15, and added new independent claim 21, which incorporated the subject matter of originally filed dependent claim 9 (claiming transferring funds to another

subscriber's mobile wallet). *See* applicant's claim amendments, Ex-1002 at 1171-1176 and originally-filed claims, *id.*, 1191-1221. To distinguish the claims over the cited art, the applicant amended claims 1 and 15 to include the limitation "performing one or more of a limit check and a velocity check on the unbanked subscriber's mobile wallet account, the limit check determining whether sufficient funds are available to make the deposit amount, the velocity check determining whether the unbanked subscriber has exceeded a specified number of transactions within a specified time period." *Id.* at 1171, 1173; *see also id.* at 1179-1180.

On May 30, 2013, the applicant and examiner participated in an interview to discuss "***necessary amendment to move the case to allowance***" and in which the examiner "suggested some ***necessary change to claim 1***."

Date of Interview: *30 May 2013*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☐102 ☐103 ☒Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *1*.

Identification of prior art discussed: *n/a*.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Applicant and examiner discussed necessary amendment to move the case to allowance. Examiner recommended some necessary change to claim 1 and applicant agreed. Examiner will enter the change by examiner's amendment and move the case to allowance.

Ex-1002 at 52.

The examiner amended ***only claim 1*** in an examiner's amendment to add the limitation "when the agent bank is authorized to receive the deposited money." Ex. 1002 at 55.

> *validating the status of the unbanked subscriber's mobile wallet account; determining if the agent branch is authorized to receive deposited money; performing one or more of a limit check and a velocity check on the unbanked subscriber's mobile wallet account, the limit check determining whether sufficient funds are available to make the deposit amount, the velocity check determining whether the unbanked subscriber has exceeded a specified number of transactions within a specified time period;*
>
> *crediting the unbanked subscriber's mobile wallet account with the specified amount of funds* ***when the agent bank is authorized to receive the deposited money****;*
>
> *returning a notification to the agent branch confirming the deposit; and notifying the subscriber that the specified amount of funds was deposited in the unbanked subscriber's mobile wallet account over at least one of the plurality of channels connected to the monetary transaction system.*

Id. Notably, this language was not added to claims 15 and 21 of the '199 application, but nonetheless the examiner allowed all claims, citing only the language of claim 1 as the reasons for allowing independent claims 15 and 21.

performing one or more of a limit check and a velocity check on the unbanked subscriber's mobile wallet account, the limit check determining whether sufficient funds are available to make the deposit amount, the velocity check determining whether the unbanked subscriber has exceeded a specified number of transactions within a specified time period; crediting the unbanked subscriber's mobile wallet account with the specified amount of funds when the agent bank is authorized to receive the deposited money; returning a notification to the agent branch confirming the deposit; and notifying the subscriber that the specified amount of funds was deposited in the unbanked subscriber's mobile wallet account over at least one of the plurality of channels connected to the monetary transaction system."

For these reasons claims 1, 15, and 21 are deemed to be allowable over the prior art of record, and claims 2-3 and 22-23 are allowed by dependency on an allowed claim.

Id. at 58; *see also id.* at 56-57. Independent claims of 1, 15, and 21 of the '199 application issued as claims 1, 4, and 5, respectively, of the '845 patent.

V. Claim Construction

A. Legal Standard for Claim Construction

In an IPR, claim terms are construed under the standards articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc) and its progeny. Additionally, Petitioner contends that certain terms below should be construed consistent with Fintiv's FICs for the purpose of this proceeding. *See*, *e.g.*, *10X Genomics, Inc. v. Bio-Rad Laboratories, Inc.*, IPR 2020-0086, Paper 8 (Institution Decision) at 18 (April, 27, 2020) ("[T]he rule does not prohibit Petitioner from submitting a claim construction it believes is incorrect and relying on that construction to show how the claim is unpatentable.").

B. District Court Claim Construction

The district court construed the term "mobile wallet" to mean "[a] stored value account or prepaid access account (PPA) that allows the owner (or 'subscriber') to pay for goods and services of the mFS platform from his or her mobile wallet account." Ex-1012 at 1. The district court construed the terms "agent branch," and "unbanked subscriber" as "plain and ordinary meaning." *Id.* at 2-3. Petitioners contend the district court's constructions should apply. Fintiv contended in the district court that no term requires construction. *See* Ex-1014.

C. Claim Terms Requiring Construction

1. "unbanked subscriber"

As discussed above, the district court construed this term to have its plain and ordinary meaning. A POSA would understand from the specification (*see* Ex. 1001 at 12:25-27) and extrinsic evidence that an unbanked subscriber is one that does not have or have access to a financial institution account. Ex-1003, ¶¶ 80-81.

2. "wherein performing the specified transaction includes communicating with a monetary transaction database to determine whether the transaction is permissible based on data indicated in the [unbanked] subscribers' profile"

Claims 1 and 5 both recite this limitation. The only examples of this determination provided in the specification relate to limit and velocity checks. The specification states:

> [P]erforming the specified transactions may include communicating with the monetary transaction database to determine whether the

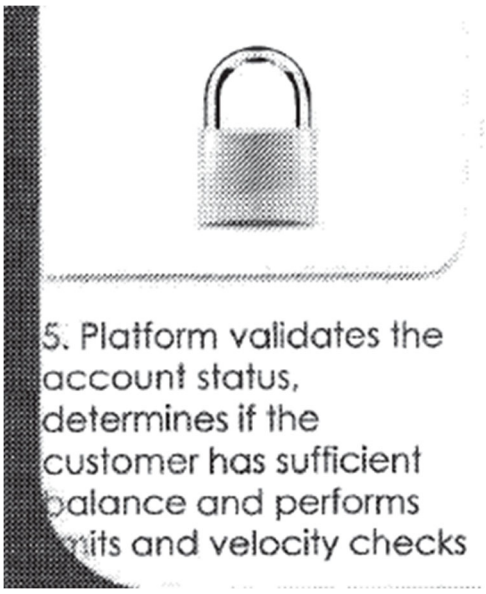
> transaction is permissible based on data indicated in the unbanked subscriber's profile (***for instance, whether the subscriber has enough eMoney in his or her stored value account, or has enough money in his or her bank account***). Rules engine 220 may also be consulted to determine whether the subscriber has exceeded a specified number of allowed transactions. Then, if funds are available, and the transaction is otherwise permissible, the monetary transaction system can transfer money or eMoney 221…

Ex-1001, 14:19-25. *See also id.,* 19:39-44 ("The monetary transaction system 210 … performs a limit check and/or a velocity check on the selected payment method to ensure the eMoney transfer is permissible (step 830)." The remainder of the specification largely parrots the claim limitation, and does not specify any criteria by which a transaction is considered to be "permissible," nor provide examples of any specific "data indicated in the subscribers' profile." *See,* Ex-1001 at Abstract, 1:43-46, 3:38-41 (same). Ex-1003, ¶¶ 82-84. Based on the limited disclosure in the specification, this term includes "communicating with a monetary transaction database to approve or deny a transaction based on data in the subscriber's profile, including the balance of the user's account and the number of transactions performed in a given time period." Ex-1003, ¶¶ 82-85. *See also* Ex-1011 at 37 (accusing the use of "sending limits" as satisfying this limitation.).

3. "validating the status of the specified recipient to ensure the specified recipient has a valid mobile wallet account" (claim 5)

Claim 5 requires "validating the status of the specified recipient to ensure the specified recipient has a valid mobile wallet account." The specification does

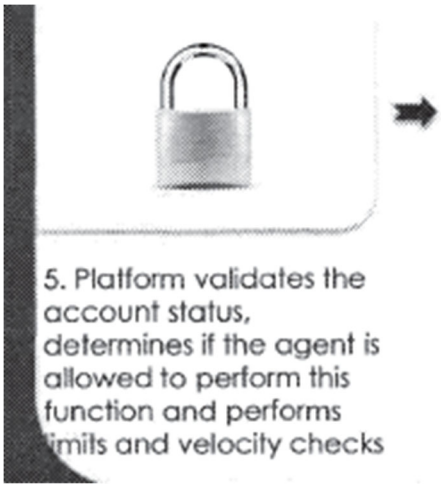
not specify a particular validation on a specified recipient that ensures the specified recipient has a valid mobile wallet account. While Fintiv's FICs allege that "validating the status of the specified recipient to ensure the specified recipient has a valid mobile wallet account" is used to "determine that the mobile wallet application is a valid account ***and is associated with the correct user***" (Ex-1011 at 151), there is simply no support for this additional limitation, much less an explanation of how one determines how a specified recipient is the "correct user". Ex-1003, ¶¶ 86-89. The provisional applications to which the '845 patent claims priority illustrate "validat[ing] the account status" in Figure 11 for "Money Transfer" operations with an image of a physical lock, connoting that one "validates the account status" by checking whether the account is frozen or locked. Ex-1027 at 65:



Based on the claim language and provisional application, a POSA would have understood the term "validating the status of the specified recipient to ensure the specified recipient has a valid mobile wallet account" to simply mean determining that the specified recipient has a mobile wallet account that is allowed to receive the transferred funds. Ex-1003, ¶¶ 86-90.

4. "validating the status of the unbanked subscriber's mobile wallet account" (claim 1)

Other than the "lock" example above, the specification does not specify any particular validation of an unbanked subscriber's mobile wallet account in connection with an unbanked subscriber depositing funds into his/her account at an agent branch. Fintiv's FICs allege that "validating the status of the unbanked subscriber's mobile wallet account" is met by "determin[ing] that the mobile wallet application is a valid account ***and is associated with the correct user***." Ex-1011 at 66. There is likewise simply no support for this additional limitation, much less an explanation of how one determines the mobile wallet is associated with the "correct user." Ex-1003, ¶¶ 91-95. The provisional applications to which the '845 patent claims priority merely refer to "validat[ing] the account status" in Figure 7 for deposit operations with the same lock analogy discussed above. Ex-1027 at 39:



Based on the plain language of the claim and the provisional application, a POSA would have understood the term "validating the status of the unbanked subscriber's mobile wallet account" to simply mean determining that the unbanked subscriber's mobile wallet account is allowed to receive the deposited funds. Ex-1003, ¶¶ 91-95.

VI. Detailed Discussion of the Grounds for Unpatentability

The Challenged Claims are unpatentable based on three grounds. Ground 1 establishes that claims 5 and 7 are anticipated by Tumminaro. Ground 2 establishes that claims 5-7 are rendered obvious by Tumminaro and the background knowledge of POSA. Ground 3 establishes that claims 1-3 are obvious over Tumminaro, Keena, and the background knowledge of POSA.

A. Overview of the Principal Prior Art

1. Tumminaro (Ex-1005)

U.S. Pub. No. 2007/0255620 to Tumminaro ("Tumminaro") was filed on March 30, 2007 and published on Nov. 1, 2007, and is therefore prior art under 35 U.S.C. § 102(b).

Tumminaro discloses "systems and techniques for effectuating financial transactions via mobile devices" through a "closed-loop financial transaction system for person-to-person and consumer to merchant transactions." Ex-1005, [0003]. Tumminaro recognized a "[n]eed for electronic payments to be accessible to banked and unbanked customers." *Id*., [0036]. Figure 1 (below left) shows a block diagram of the closed-loop financial transaction system of Tumminaro, and Figure 3 (below right) depicts a particular embodiment of the system, called "Obopay."

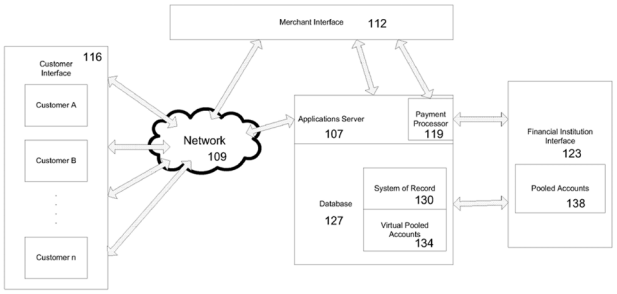


Fig. 1

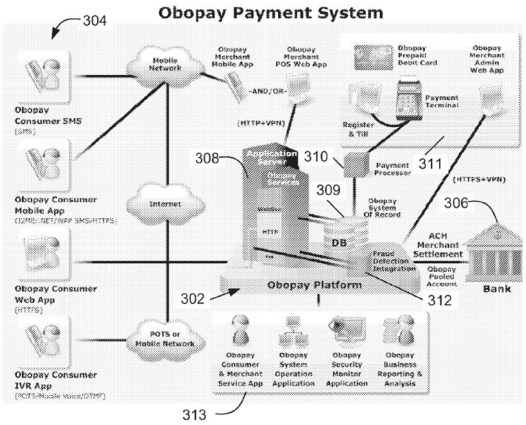


Fig. 3

The system in Fig. 1 comprises "an applications server 107… connected through network 109." Ex-1005, [0144]. "On the applications server is a payment processor 119." *Id.,* [0146]. The system also includes a customer interface 116 for communicating with users through network 109, and a financial institution interface 123 that "is connected to the applications server and payments processor." *Id.* The system permits "conducting value exchange transactions including… mobile person-to-person payments and transactions, mobile person-to-merchant transactions, and mobile banking." *Id.*, [0144].

Users of the Tumminaro system initiate transactions through a mobile device. Tumminaro discloses that a "mobile payment platform and service provides a fast, easy way to make payments by users of mobile devices." Ex-1005, [0034]. Tumminaro discloses a "mobile client application, resident on the mobile device" that "simplifies access and performing financial transactions in a fast, secure manner." *Id. See also id.*, [0465] ("The MCA resides on the cell phone 3802.") Tumminaro provides a detailed description of the mobile client application in paragraphs [0695-0906]. Specifically, the "mobile client application allows people to pay friends, shop, and transfer funds by their mobile device. An account holder can access the mobile client application to send money or request money from anyone with a mobile device that supports text messaging or mobile Internet capabilities." *Id*., [0705].

Users of the Tumminaro system may be "carded users" or "no-card users." Carded users are those that "sign up for with [sic] a particular banking partner to receive" a prepaid debit card or credit card. *Id.*, [0278]. For no-card users, the system uses "pooled accounts." *Id.*, [0023]. Pooled accounts are bank accounts for multiple users held at a partner financial institution or internally by the closed loop system itself. Id., [0146], [0516], [0603], Fig. 53. Tumminaro states that unbanked users may also utilize pooled accounts. Id., [0447]. ("for unbanked users, accounts can be created or held in a pooled account with the partner bank.")

Tumminaro additionally describes transfers between two no-card users as "closed loop" operation, in which "the components of the value transfer process take place under the control of the entity who owns the payment system." Ex-1005, [0433]. In closed loop transactions, such as between two no-card users, the owner of the payment system, e.g., Obopay, settles transactions by recording balances in its own internal ledger. *See*, *e.g.*, *id.*, [0420].

2. Keena (Ex-1006)

U.S. Pub. No. 2006/0253335 to Keena ("Keena") was filed as a PCT application on January 22, 2004 and published in the US on November 9, 2006, and is therefore prior art under 35 U.S.C. § 102(b).

Keena discloses a "mobile payment platform 10" which is "a carrier-grade mobile 'wallet' platform" that "supports a range of transactions from micro-

payments up to very large value purchases." Ex-1006, [0036-37]. The platform includes a "mobile stored value module 14" in which "registered users (registered wallet holders) may prepay funds which can be later used to make payments for certain goods and services." *Id.,* [0038]. This stored value "offers an alternative payment option useful in situations where subscribers are not banked." *Id.* In particular embodiments, the stored value is sold as "top-up tokens via a network of distributors to customers who do not have a phone or bank account and who… can only pay in cash." *Id.*, [0052].

The "subscriber approaches the vendor with cash and requests a top-up for $50… The vendor provides the top-up using their mobile phone as the point of sale device." *Id.*, [0050]. The vendor uses SMS to enter "a command using syntax that includes the transaction type (e.g. TOP), the subscriber's phone number, and the amount" and "submits the request." *Id.,* [0051]. After confirming the transaction, the vendor "receives confirmation of the top-up," and "[t]he subscriber also receives a top-up acknowledgement via SMS." *Id. See also* Fig. 7, [0065]; Ex-1003, ¶¶ 106-108.

3. Motivations to Combine Tumminaro and Keena

There are numerous motivations to combine Tumminaro and Keena. ***First***, a POSA in June 2011 would have been motivated to incorporate Keena's top-up of customer's accounts via customer cash deposits at vendor's retail location with

Tumminaro's mobile wallet system to enable subscribers who only have access to cash (*viz*, the unbanked) to add funds to their mobile wallet accounts and use the financial transaction system while maintaining security of the overall system. Keena for example, recognizes that its invention "is particularly useful in emerging markets where mobile phone penetration is growing but where few alternatives exist for providing prepaid top-ups," and that "[a]lternative strategies that are becoming popular in developed economies, such as POS and ATM top-up solutions, are often not practical due to absence of infrastructure or low numbers of banked subscribers." Ex-1005, [0023]. Likewise, Tumminaro recognizes that there is a "[n]eed for electronic payments to be accessible to banked and unbanked consumers." Ex-1004, [0036]. And Tumminaro discloses merchants operating as "load agents." Ex-1005, [0174], [0196], [0604]. Modifying Tumminaro to allow topping-up customer's mobile wallet accounts via cash deposits at vendor retail locations as taught by Keena would allow more users to more conveniently make more cash deposits with greater security.

Second, a POSA would have been motivated to incorporate Keena's notification of a completed top-up transaction to both the customer and vendor into Tumminaro's system in order to efficiently alert the parties of the success of the requested top-up transaction. Indeed, Tumminaro recognizes *the need for notifying parties*. Ex-1003, ¶ 110; Ex-1005, [0327] ("both parties being notified of the others

'steps' along the way"), [0150] ("The mobile payment system will … notify the parties appropriately.). Ex-1006, [0051] ("The vendor … submits the request …[for a top-up]. The vendor … receives confirmation of the top-up including the new stored value module balance of $320 (FIG. 2D). The subscriber also receives a top-up acknowledgement via SMS."). Sending notifications (including "comprehensive error messages") to both parties would provide greater transparency to subscribers and improve the customer experience. *See*, *e.g.*, Ex-1006, [0047]. Furthermore, by sending notifications to both parties, users of the Tumminaro system would be informed of the transaction *in real*-or *near-real- time*, which facilitates *immediate transfer* of funds, as Tumminaro contemplates. *See* Ex-1005, [0036] ("Need for electronic payments to be available to everyone, any-place, any-time and **in near-real-time**."), [0603] ("The transfer is immediate[.]"). Tumminaro consistently identifies transaction delays as a disadvantage of conventional systems. *See*, *e.g.*, Ex-1005, [0339], [0370], [0375], [0482], and [0591]. It is common sense that users like to know that their deposit transaction was successful so they can perform other transactions (e.g., paying a utility bill) with confidence that their transaction will not be denied for insufficient funds. Moreover, the technology for sending notifications was well established by June of 2011 and a POSA would have every expectation of success implementing such notifications. Ex-1003, ¶¶ 110.

Third, a POSA would have been motivated to incorporate Keena's methodology of PIN challenge for validating merchants into Tumminaro's financial transaction system because Tumminaro recognizes *the need for uniquely identifying parties*. Ex-1003, ¶ 111; Ex-1006, [0051] ("The mobile top-up system then sends the vendor a PIN challenge."); Ex-1005, [0034] ("Financial transactions may be conducted on a person-to-person (P2P) or person-to-merchant (P2M) basis where each party is identified by a unique indicator such as a telephone number or bar code."). Tumminaro describes that Consumer and merchants have accounts on the system, *see id*., [0501], and account holders set up "a unique account holder identification number (PIN) to verify all transactions." *Id*., [0201]. Such PIN verification also enhances security. Tumminaro's "payment server validates each transaction" because Tumminaro is concerned with preventing fraud and enhancing security. *Id*., [0203]; see also [0609]-[0617]. Ex-1003, ¶ 111. A POSA would have understood that the implementation of a PIN challenge by a merchant serving as a load agent aligns with Tumminaro's three-level security blanket and reduces the potential for fraud. *See e.g.,* Ex-1005, [0619]. As such, a POSA would have had a reasonable expectation of success in implementing a PIN challenge in Tumminaro's system for identifying the parties as part of validating a transaction. Ex-1003, ¶ 111.

Fourth, a POSA would have been motivated to incorporate Keena's approach into Tumminaro's system because Keena is analogous art to Tumminaro—both relate to a mobile payment platform involving use of mobile wallets and mobile client applications. Ex-1006, [0012] ("a server side mobile wallet which provides secure storage of user identity and profiles and a payment mechanism for users to obtain goods and services from a point of sale device.") Keena's mobile payment platform supports multiple, value-added applications and services that customers can access using their personal mobile wallet. The wallet incorporates payment or top-up, i.e. (value store) functionality. Keena's system hosts mobile applications and provides the mobile applications with efficient access to a variety of channels. *See also* Ex-1006, [0036], [0039], and [0055]; Ex-1005, [0038], [1134], and [0882]. A POSA would have understood that both Tumminaro and Keena highlight the ubiquity of mobile devices (including among unbanked users) and strive to take advantage of the proliferation of software and apps and such devices to enable electronic payments. *See* Ex-1006, [0026], [0038]; Ex-1005, [0009], [0036]. Ex-1003, ¶ 112.

A POSA would have found it obvious, desirable, and predictable to implement Keena's methodology of receiving vendor-submitted communication for a top-up, sending top-up confirmation messages to both vendors and subscribers, and implementing a PIN challenge for validating merchants into

Tumminaro's financial transfer system. Ex-1003, ¶ 113. This combination would also have been within the skillset of a POSA because a POSA would have had the requisite knowledge of computer technologies and software development techniques as it relates to mobile payment systems to implement this design choice. Ex-1003, ¶¶ 47, 113.

B. Ground 1: Claims 5 and 7 Are Anticipated by Tumminaro

1. Claim 5

a. *[Preamble]: "A monetary transaction system for conducting monetary transactions between unbanked subscribers and other entities, the system comprising:"*

To the extent the Board considers the preamble a limitation, Tumminaro discloses this limitation. Tumminaro discloses a financial transactions system ("***monetary transaction system***") for conducting financial transactions between consumers and merchants. *See* Ex-1005, Abstract ("In a mobile payment system, registered users or members may send payment to other member or unregistered users or nonmembers."); [0038] ("a closed-loop financial transaction system based, in part, on the use of a cell phone or a PDA to make or receive payments.") Ex-1003, ¶¶114-119. Figure 3 depicts a particular embodiment of the Tumminaro system:

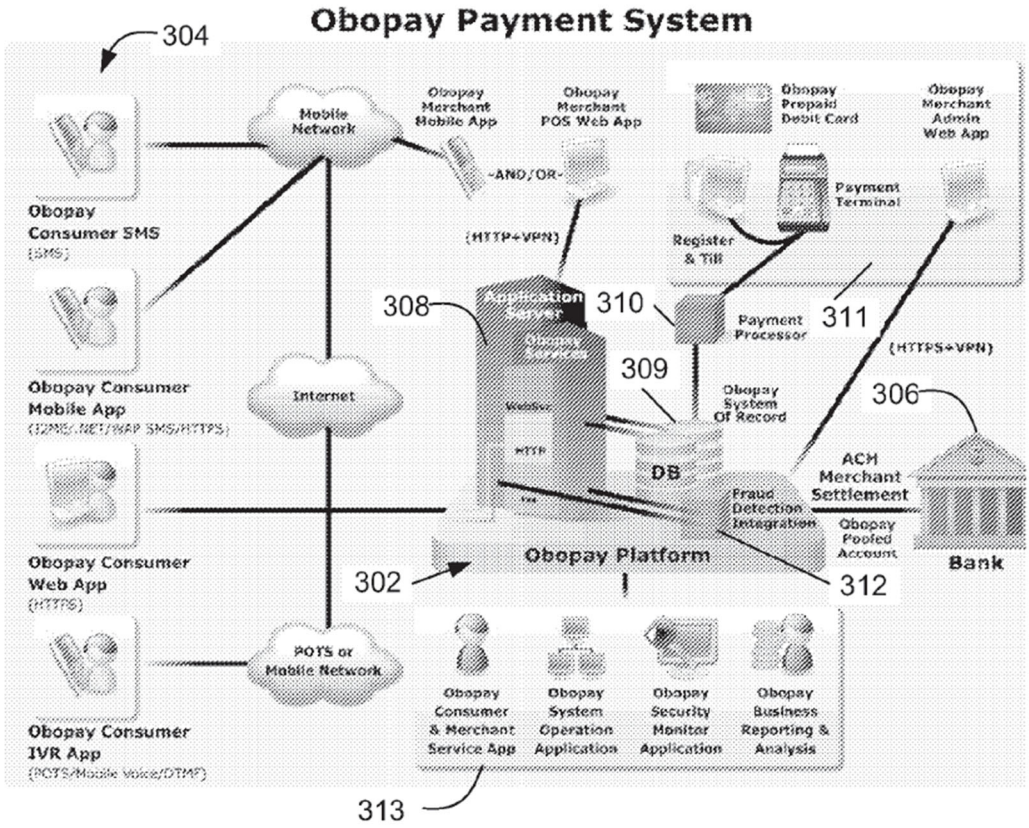


Fig. 3

300

Ex-1005, Figure 3.

Further, Tumminaro discloses the payment system is capable of "***conducting monetary transactions between unbanked subscribers and other entities***." Tumminaro explains that "[t]he stand-alone closed loop payment system of the present invention is designed to integrate with a companion bank account. This account can be a preexisting account or, **for unbanked users, accounts can be created or held in a pooled account with the partner bank**." Ex-1005, [0447],

emphasis added. Indeed, Tumminaro identifies the "**[n]eed for electronic payments to be accessible to banked and unbanked consumers**." Ex-1005, [0036].

Tumminaro additionally discloses several "entities," such as "partner" and "companion" banks, "consumers," and merchants" conducting financial transactions. Ex-1005, [0455] ("In this transaction system, consumers and merchants, **a group of two or more consumers** or a group of two or more merchants may readily complete financial transactions quickly, securely for little or no transaction cost.") Ex-1003, ¶¶ 117-118.

b. *[5a]: "a mobile device configured to run a monetary transaction system application;"*

Tumminaro discloses a mobile device configured to run a monetary transaction system application. *See* Figure 3 ("Obopay consumer mobile app"). Figure 38 (reproduced below) depicts a cell phone 3800 ("a mobile device") configured to run a mobile client application (MCA), which comprises "user interface APIs 3802 and 3803 and a Payment API 3805". Ex-1005, Figure 38 (below), [0465]. The MCA is "a ***monetary transaction system application***".

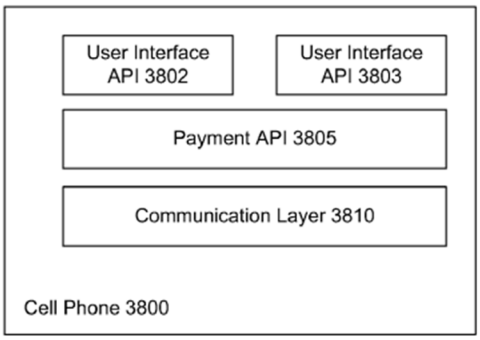


Fig. 38

The MCA "resides on the cell phone" and "allows people to pay friends, shop, and transfer funds by their mobile device. An account holder can access the mobile client application to send money or request money from anyone with a mobile device that supports text messaging or mobile Internet capabilities." *Id*. Ex-1003, ¶¶ 120-122.

c. ***[5b]: "a monetary transaction system subscriber that has a profile with the monetary transaction system, wherein the subscriber indicates, via the monetary transaction system application, one or more specified transactions that are to be performed using the monetary transaction system;"***

Tumminaro discloses this limitation. Ex-1003, ¶¶ 123-128. "In the mobile payment system, each user will have a user profile that has settings for that user. These parameters may include (1) a level of participation, (2) which processor (e.g., which financial partner), (3) velocity settings, (4) linked accounts, or any combination of these." Ex-1005, [0271]. Each "user" or "member" of the

Tumminaro system is a "***monetary transaction system subscriber***." Ex-1003, ¶ 123.

Tumminaro further discloses that "[t]he closed loop system maintains a user profile database that includes the account holder's name and demographic data, information used for underwriting the risk for each specific account holder and linked bank account information for accounts that will be used to load or unload funds from the account." Ex-1005, [0448].

Tumminaro also discloses subscribers indicating one or more specified transaction via the MCA. "**Transactions may be requested through** any number of means including **SMS messaging**, Web, e-mail, instant messenger, **a mobile client application**, an instant messaging plug-in application or 'widget.'" *Id*., [0034]. The MCA, through its API 3802, "provides the user screen images that **guide an account holder through various financial transactions such as identifying the other party, the amount of the transaction, if any and the type of transactions that are available.**" *Id*., [0465] and Figure 38. Ex-1003, ¶¶ 127-128.

d. ***[5c]: "a monetary transaction system processor that performs the one or more transactions specified by the subscriber, wherein performing the specified transactions includes communicating with a monetary transaction database to determine whether the transaction is permissible based on data indicated in the subscriber's profile;"***

Tumminaro discloses *"**a monetary transaction system processor that performs the one or more transactions specified by the subscriber***." Ex-1003, ¶ 129. For example, Tumminaro discloses an "applications server 107" that "may be executing on a singer [sic] server machine or a number of server machines. As the load on an applications server increases, typically more machines will be used to handle an respond to the increased load." *Id.,* [0144]. Tumminaro also discloses that "on the applications server is a payment processor" that performs the one or more transactions specified by a user. *Id.,* [0146]. Tumminaro also discloses a specific implementation of the closed-loop financial transaction system in Fig. 3 and [0158-0251]. Ex-1003, ¶ 129. "Platform 302 comprises a server 308 that handles interaction with account holders and maintains transaction records… Server 308 uses information (such as account numbers, balance information, etc.) obtained from transactional database 309 to manage a payment processor 310." *Id.,* [0173]. "A settlement engine handles the transactions within the closed loop system which will settle on a real time basis…. The settlement engine facilitates person-to-person (P2P) transactions". *Id.,* [0174-75]. Tumminaro also discloses a

transaction processor or payment server 3630 that "includes one or more server farms or data centers capable of handling large volumes of transactions." *Id.,* [0457]. Each of these elements constitutes "a monetary transaction system processor that performs the one or more transactions specified by the subscriber."

Tumminaro also discloses that performing the specified transactions includes ***"communicating with a monetary transaction database to determine whether the transaction is permissible based on data indicated in the subscriber's profile."***

First, Tumminaro discloses that the "closed loop system maintains a user profile database that includes… information used for underwriting the risk for each specific account holder." *Id.,* [0447]. *See also* [0176] ("Platform 302 further comprises a fraud detection system 312… Risk is controlled by a general rules engine (*see* FIG. 3) that applies limits and determine [sic] the acceptability of requested transactions from a risk perspective.")

Tumminaro discloses a tiered fraud detection system 5200 in paragraphs [0594-0602]. The "first tier of the tiered system 5200 includes a rules based engine and user selected components 5201." Ex-1005, [0594]. The "user selected components include… the ability of the account holder to customize security for their account." *Id.,* [0594-95]. For example, "the account holder may specify maximum spending limits on a daily, weekly, or monthly basis… exclude certain

merchants, account numbers or telephone numbers… designate wild card exclusions such as blocking transfer of funds to any phone having a particular area code or to any '900' or foreign number…preauthorize purchases at each of the merchants appearing on [a] white list while setting a per transaction limit on the other numbers on the white list… specify the maximum amount of reach transaction and the number of transactions that may be processed on a cell phone in a selected period." *Id.,* [0595-600]. Each of these rules is stored in the "user profile database" or equivalent database. Ex-1003, ¶¶ 131, 137.

As an example of the above "user selected components" such as white and black lists, Tumminaro discloses that, in a "transaction between a no-card user (user A) and a no-card user (user B)", User B can have a "white list," that dictates "that B will accept payments from only specified users (which may be **stored in the user's profile**)," and a "black list," that "dictate[s] that B will not accept payments from specified members (**which may be stored in the user's profile**)." *Id.,* [0387] (emphasis added). Thus, when transferring from User A to User B, the system of Tumminaro will reference whether User A is on User B's white or black list in the profile database to determine whether to permit or deny the transaction. Ex-1003, ¶¶ 136-137.

The second tier of the fraud detection system 5200 relates to the risk for each specific account holder. Ex-1003, ¶¶ 132-133. Specifically, Tumminaro

states "the second tier 5202 includes a maximum spending limit based on historical averages, geographical verification, the historical number of daily transactions… A fraud and risk rules engine (not shown) controls risks by applying spending limits and determining the acceptability of requested transactions from a risk perspective." Ex-1005, [0601-02]. The information used by the fraud detection system is stored in the user's profile in the "user profile database" and historical transactions database (T-ledger) for that user. Ex-1003, ¶ 133; Ex-1005, [0449] ("The payment server maintains a 'T' account record for each account holder. This account is a ledger that keeps track of each holder's transactions and balances. In conjunction with the T account database, the payment server provides history and balance data.").

Second, Tumminaro discloses that the user profile includes a parameter for "level of participation," which represents "the privileges or level of service that the user will have." *Id.,* [0271-273]. Tumminaro specifically describes four exemplary levels of participation, each with differing permissions for transactions. *Id.,* [0275-78]. For example, a user in the "enrolled state" may "receive and request money" but not send money, whereas a user in the "verified" state may be able to also add and withdraw money. *Id.* Tumminaro thus discloses determining what transactions are permissible based on "level of participation" information in the user's profile stored in a transaction database. Ex-1003, ¶ 138.

Third, Tumminaro also discloses conducting a security check based on information stored in a user's profile. The user's mobile device can have "a counter that counts in a particular sequence and generates keys in this sequence using a particular function," and that the "server or system side, the server will know the expected key ***because it is stored in the user's profile*** and will also know the function to use to generate the key." *Id.*, [0692] (emphasis added). If the expected keys and a key transmitted from the user device do not match, "[a] user account associated with the value exchange transaction may be suspended to prevent further transfers of money since a security violation has occurred." *Id.*, [0693].

Fourth, Tumminaro discloses that the system may be set up to use PIN verification. "Once registered, a [sic] account holder sets up a unique holder identification number (PIN) to verify all transactions." *Id.*, [0201]. During a transaction, for example a transfer from a no-card user to another no-card user, "[t]he mobile payment service identifies source A as member, validates account, checks balance, and ***checks PIN***.") Ex-1005, [0201]. *See also* [0357] ("The mobile payment system may also perform a PIN and account validation or other validation steps to ensure that A's account has not been suspended, has sufficient funds, and so forth.") The PIN is stored at the system's servers, and the PIN, which is unique to a user, is stored in or in association with the user's profile. *See*

[0625] ("the server then checks the PIN transmitted from mobile device against PIN recorded in system…. If and only if the PIN Matches, will the server allow the transaction to proceed. If the PIN does not match, then the transaction is disallowed."); Ex-1003, ¶140.

e. ***[5d]: "at least one entity that is to be involved in the specified transaction, the at least one entity having a profile with the monetary transaction system; and"***

Tumminaro discloses this limitation. Ex-1003, ¶ 141. Tumminaro discloses "users" and/or "merchants" as entities involved in a financial transaction "on a person-to-person (P2P) or person-to-merchant (P2M) basis[.]") Ex-1005, [0034]. Additionally, as explained earlier, Tumminaro discloses user profiles. *See* Ex-1005, [0271], [0273], and [0448]. Thus when performing a fund transfer between unbanked users, e.g., two no-card users (Figures 13, 23, 26, [0345], [0417], [0420]), a "no-card" user to "carded user" (*id.*, Figs. 16, 27, [0348], [0421]),or generally using stored value (Fig. 35), each of the sender and recipient has a user profile. Ex-1003, ¶ 141.

f. ***[5e]: "wherein the monetary transaction system is implemented to transfer money between mobile wallets, including performing the following steps;"***

Tumminaro discloses this limitation. Ex-1003, ¶¶ 142-143. Tumminaro's system transfers money between mobile wallets. "The [Mobile Client Application

and Platform] MCAP is basically a 'mobile wallet' or 'pay by phone' consumer/mobile-merchant application.". Ex-1005, [0882].

For example, Tumminaro discloses that the monetary transaction system is implemented to transfer money between two "carded users" (Ex-1005, Figures 14, 20, [0346], [0413]), a "carded user" to a "no-card" user (*id.*, Figures 15, 22, [0347], [0415-16]); a "no-card" user to "carded user" (*id.*, Figures 16, 27, [0348], [0421]), and two "no card" users in a closed-loop system (*id.*, Figures 13, 23, 26, [0345], [0417], [0420]). Each of these transfers is a transfer between mobile wallets. Ex-1003, ¶¶142-143.

g. ***[5f]: "receiving subscriber communication over one of a plurality of channels connected to the monetary transaction system, the subscriber communication indicating that an unbanked subscriber desires to transfer a specified amount of funds to specified recipient using a specified payment method from the subscriber's mobile wallet;"***

Tumminaro discloses this limitation. Ex-1003, ¶¶ 144-157. Tumminaro discloses that unbanked subscribers (i.e. subscribers that do not have bank accounts) can transfer funds to other subscribers. *Id.,* [0447], [0455].

Figure 16, shown below, illustrates steps involved with a peer-to-peer fund transfer. Figure 16 includes the step of "(1) **Member A sends 'pay' request to the mobile payment service server with member B as target**." Ex-1005, [0348], Figure 16:

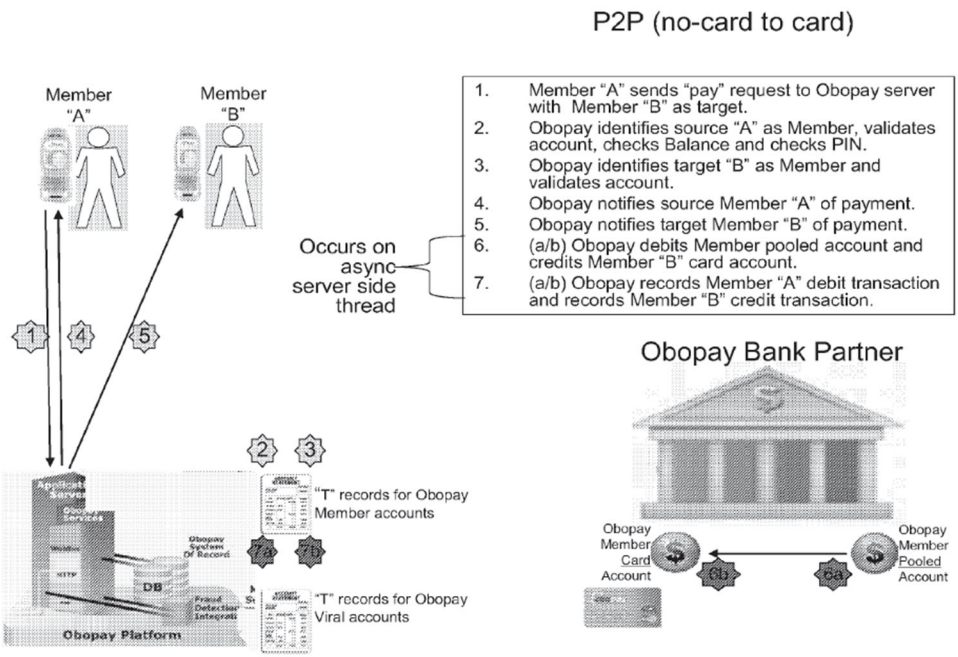


Fig. 16

Ex-1005, Figure 16. The same general process is described for transactions between card to no-card members, and between two no-card members. Ex-1003, ¶¶ 146-150; Ex-1005, [0434] ("when a payment is made from a mobile device 3501 to another mobile device, the request for the transfer is **passed to the payment server 3503**.") For example, Fig. 13, shown below illustrates a peer-to-peer transaction between two "no-card" individuals, where the first step involves, member "A" sending a pay request for member "B."

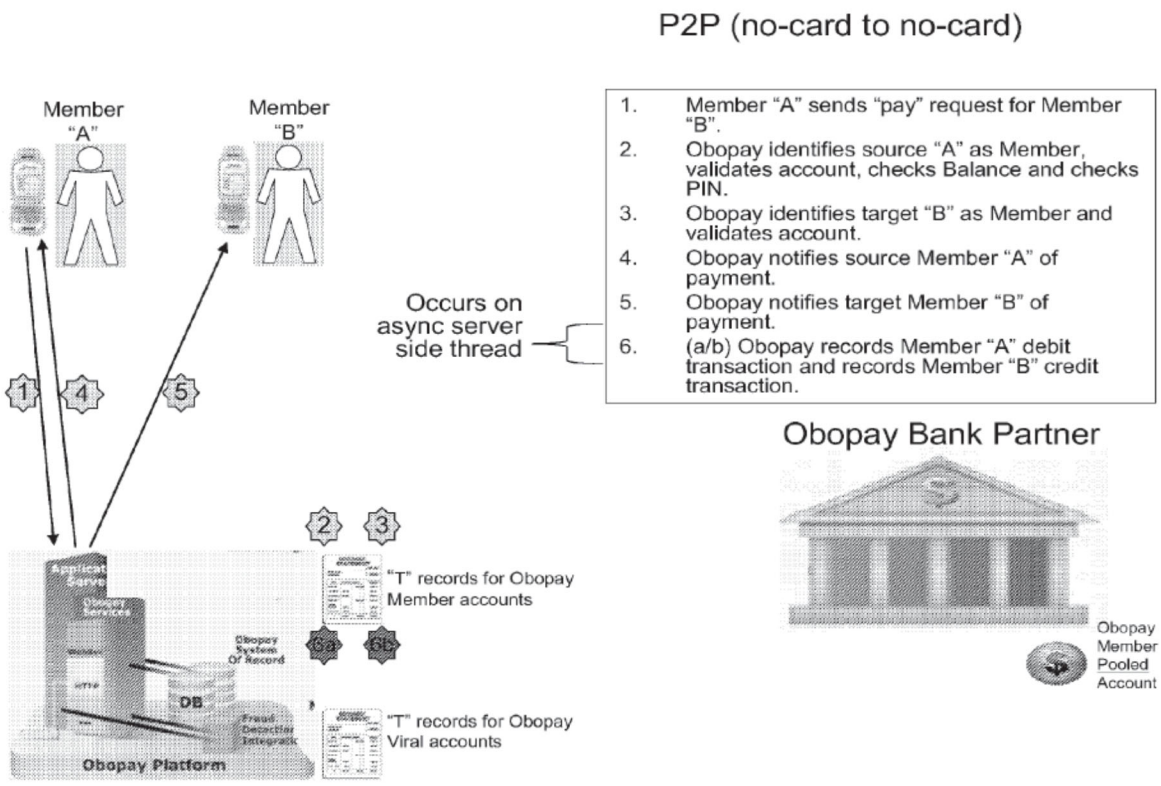


Fig. 13

Tumminaro discloses that a transaction request can be sent via SMS or through the MCA, identifying the recipient by phone number or "some other identification code" and amount to pay the recipient. EX-1005, [0220], [0228]-[0229]. For example, Tumminaro describes that "API 3802 [included in the mobile client application] provides the user screen images that guide an account holder through various financial transactions such as **identifying the other party**, **the amount of the transaction**, if any and **the type of transactions** that are available." *Id*., [0465]. Tumminaro also discloses exemplary mobile application user interface screens depicting this operation. *See, e.g.* Figures. 66, 68, 82.

The payment request is transmitted "over one of a plurality of channels" connected to Tumminaro's mobile payment system. For example, Tumminaro describes that "[t]he system allows multichannel and cross-channel transactions. … [P]ayments may be requested from any of the available channels (e.g., mobile phone, instant messenger, e-mail, Web, debit card, WAP, SMS message, or dedicated mobile phone application)." *Id*., [0353].

Tumminaro discloses that users/members may use a pooled account or a prepaid debit card. Ex-1003, ¶157, Ex-1005, [0447] ("for unbanked users, accounts can be created or held in a pooled account with the partner bank.") Depending on the user's account configuration, the communication to the financial transaction system indicating that the user wishes to transfer funds to a specified recipient will include the payment method to be used (i.e., pooled account or prepaid debit card). Ex-1003, ¶157. Additionally, a mobile device may be "associated to one or more bank accounts (checking, savings, credit, prepaid, or a pooled account, and the like)." Ex-1005, [0242]. In the multiple account scenario, a user would typically pick which account to use to fund a transfer. Ex-1003, ¶ 157.

h. *[5g]: "validating the status of the selected payment method;"*

Tumminaro discloses this limitation. Ex-1003, ¶¶ 158-159. ***First,*** each of the Figures 13-16 include the step of "**(2) The mobile payment service identifies**

source A as member, validates account, checks balance, and checks PIN." Ex-1005, [0347-8]. These actions collectively "***validat[e] the status of the selected payment method***." Ex-1003, ¶ 158. The prepaid debit card or pooled account (such as pooled account 405 in Figure 4) of member A qualifies as "the … payment method" which is selected (via Tumminaro's mobile client application) by member A through configuration of his or her mobile wallet account, or explicitly for a particular payment method for the transaction. *See* VI.B.1.g.

Second, processing debit card transactions through an external network entails "validating the status" of the selected card by the network. Ex-1003, ¶ 159. Tumminaro states, "[t]he card may be accepted or usable through one or more networks, including Visa, MasterCard, American Express, NYCE, PLUS, or STAR, or any combination of these." Ex-1005, [0278], [0412] ("Through Diamond [a partner], Obopay issues debit cards and communicates with ECL and First Premiere Bank to give Oboopay users the ability to send and receive money between debit cards."), [0414] ("(2) Obopay sends the P2P request to Diamond (who in turn sends it to ECL and First Premier).") These debit card validations by debit card processors or banks also qualify as "validating the status of the selected payment method."

i. ***[5h]: "performing at least one of a limit check and a velocity check on the selected payment method, the limit check determining whether sufficient funds are available to make the deposit amount, the velocity check determining whether the unbanked subscriber has exceeded a specified number of transactions within a specified time period;"***

Tumminaro discloses this limitation. Ex-1003, ¶¶ 160-164. Ex-1005, [0348]. The no-card to card transaction of Figure 16 includes the step of "(2) The mobile payment service identifies source A as member, validates account, checks balance, and checks PIN." Ex-1005, [0348], Figure 16. Checking the balance on person A's ("unbanked subscriber") account serves as "***performing … a limit check … on the selected payment method, the limit check determining whether sufficient funds are available to make the deposit amount***."

For no-card members, Tumminaro discloses that person A's selected payment method (e.g., pooled account) is checked for sufficient balance. Ex-1005, [0335]-[0336] ("The system identifies user A as a member, and may check the PIN number, validate the account, and check the balance for user A's account. In the event that user A's account lacks sufficient funds for the financial transaction, the system may send an electronic notification to user A for insufficient funds."). For carded members, Tumminaro likewise discloses checking the card balance for sufficient funds. *E.g., id.* Fig. 14-15 (step 2), Ex-1003, ¶161. Tumminaro also

discloses user-specified limits against which transactions are checked. *See, e.g.,* [0598] ("the account holder can… ***set[] a per transaction limit***.")

Tumminaro discloses "***performing … a velocity check … on the selected payment method, … the velocity check determining whether the unbanked subscriber has exceeded a specified number of transactions within a specified time period***." Tumminaro discloses a "velocity settings" parameter stored in each user's profile. Ex-1005, [0271]. "The velocity of participation is a setting that sets certain restrictions or limits on the account. Some examples on limits of an account are how many transactions a day a user may perform or amount of money that may be transferred in a transaction." *Id.*, [0280]. For example, "after the user has remained a member for six months, the user may be automatically allowed five transactions a day when the user's previous limit for some number fewer than five."). Tumminaro's system thus checks each user's transactions against velocity settings in that user's profile to determine whether the unbanked subscriber has exceeded a specified number of transactions within a specified time period. *See also id.,* [0434] ("velocity rules are met as indicated at 3506" in Figure 35), Figure 35 (showing example velocity rules: "1. Less than $1,000," "2. Less than two transactions per day," "3. Settled funds?"):

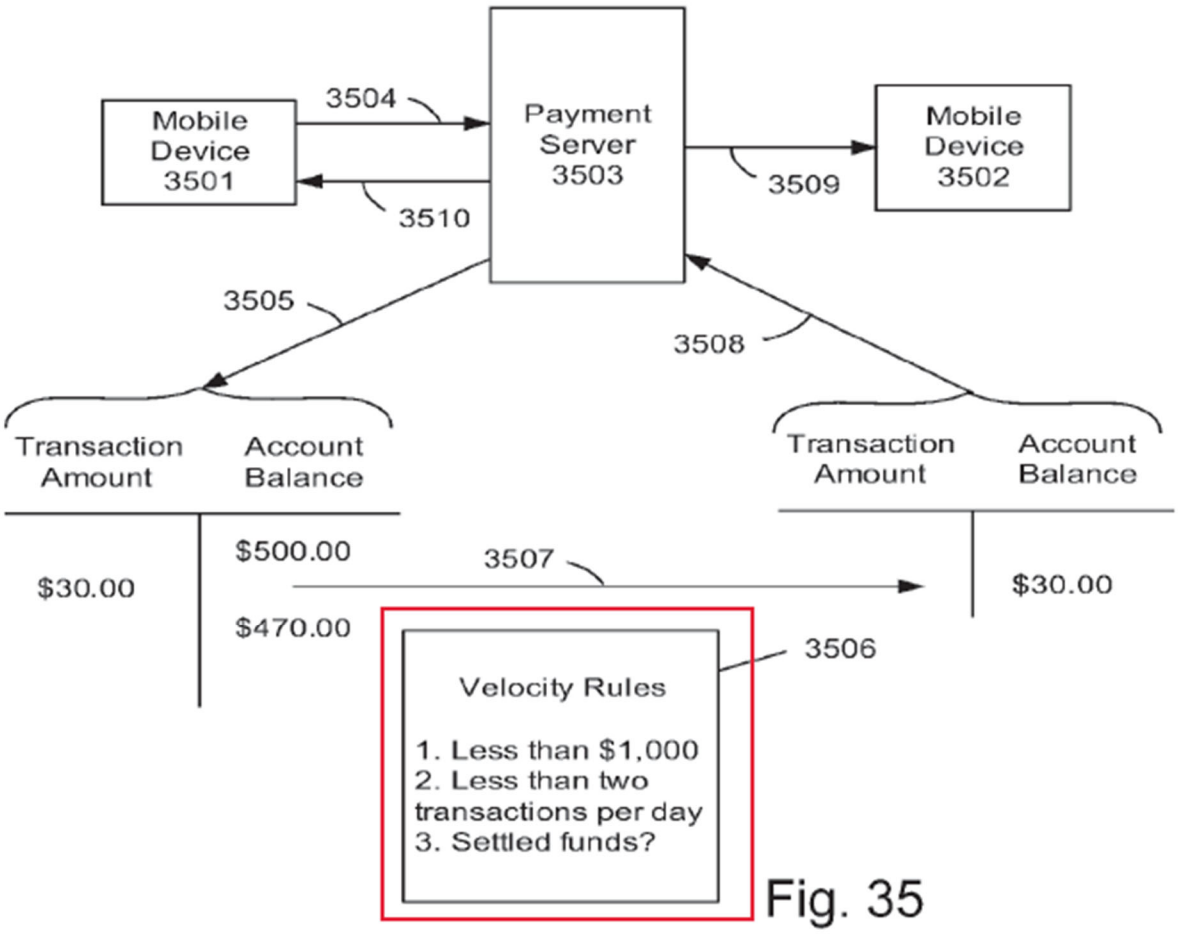


Fig. 35

j. ***[5i]: "validating the status of the specified recipient to ensure the specified recipient has a valid mobile wallet account;"***

Tumminaro discloses this limitation. Ex-1003, ¶¶ 165-167. Ex-1005, [0348]. The fund transfer in Figure 16 includes the step of "**(3) The mobile payment service identifies target B as member and validates account**." Ex-1005, [0348], Figure 16. In this step, Tumminaro discloses identifying person B ("the specified recipient") as a member of the system and validating person B's account. If the recipient is not already a member of the financial transaction

system, the system identifies him/her as such as sends him/her an invitation to register. *See, e.g.,* Ex-1005, [0586]. The Tumminaro system also determines based on its fraud detection system and user permissions, whether a user is allowed to receive the transferred funds. Ex-1003, ¶¶ 132-134, 167. Thus, the validation step satisfies Petitioner's construction of this term.

k. *[5j]: "debiting the specified payment method by the specified amount of funds;"*

Tumminaro discloses this limitation. Ex-1003, ¶¶ 168-169. Ex-1005, [0348]. The fund transfer in Figure 16 includes the step of "**(6) (a/b) The mobile payment service debits member pooled account** and credits member B card account. **(7) (a/b) The mobile payment service records member A debit transaction** and records member B credit transaction." Ex-1005, [0348], Figure 16. As discussed above, person A's "pooled account" serves as the "***specified payment method***," which is debited "by the specified amount of funds" in a funds transfer transaction.

Tumminaro also discloses debiting the specified payment method (i.e. pooled account) in closed loop mode between two no-card users. *See, e.g.,* Fig. 13, step 6 a ("Obopay records Member 'A' debit transaction."); [0433] ("Server 3503… transfers the specified amount to a payee T-ledger (as indicated by reference arrow 3507).")

l. ***[5k]: "transferring the specified amount of funds to the specified recipient over at least one of the plurality of channels connected to the monetary transaction system;"***

Tumminaro discloses this limitation. Ex-1003, ¶¶ 170-173. Ex-1005, [0348]. The fund transfer of Figure 16 includes the step of "(6) (a/b) The mobile payment service debits member pooled account and credits member B card account. (7) (a/b) The mobile payment service records member A debit transaction and records member B credit transaction." Ex-1005, [0348], Figure 16. "Upon receipt of the payment request, server 403 transfers funds from the payer's account to an account for the account holder associated with mobile device 402." Ex-1005, [0253], Figure 4. As discussed above, Tumminaro's disclosure of person A sending a request to Tumminaro's mobile payment system for paying person B results in funds transferred to person B. For example, using a mobile client application on a cell phone, person A would identify the other party (person B or "the specified recipient"), indicate the type of transaction as "transfer of funds," and enter a transaction amount ("specified amount of funds"). The fund transfer is sent over one of the plurality of channels connected to the system. Ex-1003, ¶ 173.

Additionally, Tumminaro discloses various communications channels between the monetary transaction system (e.g. Obopay), Acquirer Partners, Bank Partners, Direct Partners, ACH Partners, and Prepaid Processing Partners. *See* Fig. 5, [0265], [0268] ("Each partner may have a different electronic interfacing

scheme, and the mobile payment system will communicate using the appropriate application program interface (API) for each partner."). When effecting a fund transfer, for example, between two carded users, "Obopay sends the P2P request to Diamond (who in turn sends it to ECL and first Premier)… The amount $5 is debited from U1's debit card account and credited to U2's debit card account.") These requests and inter-partner transfers occur over communications channels and effect fund transfers, thus meeting this limitation. Ex-1003, ¶¶ 171-173.

Additionally, Tumminaro meets this limitation in the same way as described in Fintiv's FICs. Fintiv accuses transferring funds using "PayPal, Venmo, and Xoom balances." Ex-1011 at 156-57. Tumminaro discloses transfers using prepaid debit card and "closed loop" operation where stored value is transferred internally in the system via entries to the "T ledger." *See, e.g.,* Ex-1005, Figures 13, 16, 35, Ex-1003, ¶173. Thus under Fintiv's interpretation of this claim in its FICs, Tumminaro discloses "transferring the specified amount of funds to the specified recipient over at least one of the plurality of channels connected to the monetary transaction system."

m. ***[5l]: "notifying the unbanked subscriber that the specified amount of funds was transferred to the specified recipient over at least one of the plurality of channels connected to the monetary transaction system."***

Tumminaro discloses this limitation. Ex-1003, ¶ 174. Ex-1005, [0348]. Figure 16 includes the step of "**(4) The mobile payment service notifies source member A of payment**." Ex-1005, [0348], Figure 16. "**[Server platform 403 … sends a message] indicating that the payment had been made is sent to mobile phone 401**, as indicated by reference arrow 409." Ex-1005, [0254], Figure 4. Thus, person A ("unbanked subscriber") is notified that funds were transferred to person B ("specified recipient"). Furthermore, as described above, the funds are transferred "**over one of a plurality of channels**" connected to Tumminaro's mobile payment system. *See* Ex-1005, [0353] ("mobile phone, instant messenger, e-mail, Web, debit card, WAP, SMS message, or dedicated mobile phone application").

2. **Claim 7: "*The monetary transaction system of claim 5, wherein the money is transferred internationally between the mobile wallets.*"**

Tumminaro discloses this limitation. Ex-1005, [0882] ("[t]he [Mobile Client Application and Platform] MCAP is basically a 'mobile wallet' or 'pay by phone' consumer/mobile-merchant application."). Ex-1005, [0440] ("**the account holder may move money in seconds around *the world* or across a room**"), *id*., [0202]

("Account holders may also choose to link their account to a debit or credit cards offered by financial institution and which can be used at the millions of merchant locations **worldwide**.").

C. Ground 2: Claims 5-7 Are Rendered Obvious over Tumminaro and the Background Knowledge of a POSA

As discussed above, Tumminaro anticipates claims 5 and 7 and the same analysis applies for Ground 2, except that Petitioners' present alternative obviousness arguments for claim elements 5[f], 5[l], and claim 6 below.

1. [5f]: "receiving subscriber communication over one of a plurality of channels connected to the monetary transaction system, the subscriber communication indicating that an unbanked subscriber desires to transfer a specified amount of funds to specified recipient using a specified payment method from the subscriber's mobile wallet;"

To the extent that Fintiv argues limitation 5[f] requires that the ***user*** specify or select a particular payment method for the transfer, the claim does not require that functionality under the plain and ordinary meaning of its terms, and the specification of the '845 patent does not disclose a user selecting the specified payment method. Ex-1003, ¶¶ 177-181. Nonetheless, Tumminaro renders limitation 5[f] obvious under this narrower reading where the ***user specifies*** a particular payment method. In the context of paying for a purchase where the user's "mobile device is associated to one or more bank accounts (checking, savings, **credit,** prepaid, or a **pooled account**, and the like)… the account holder

can ***select the account from which funds are obtained*** to make a purchase in real time." Ex-1005, [0242] (emphasis added). A POSA would understand this same disclosure applies to P2P fund transfers, or at least it would have been obvious to do so in the P2P context. Ex-1003, ¶¶168-169. Further, Tumminaro describes that "User A may also provide details of the financial transaction, such as the amount to be transferred, ***or the form of the payment***, or combinations of these, and a PIN number if requested to validate an account." Ex-1005, [0334]-[0335] (emphasis added). Tumminaro explains that "account holders are not limited to a debit card with funds maintained in the pooled account," instead, "account holders may access a debit card account," that is "designated as the primary account." *Id.*, [0198]-[0199]. Ex-1003, ¶ 179.

To the extent that Tumminaro's person-to-person transfers do not explicitly disclose a "subscriber communication indicating . . . a specified payment method" by allowing the user to select the account from which funds are obtained in a P2P transfer, such a feature would have been an obvious modification of Tumminaro to a POSA. As an initial matter, Tumminaro explicitly discloses a subscriber communication (e.g., from Member "A") that specifies a payee (e.g., member "B") and an amount to be paid that causes a transfer of funds from member A's account to member B's. *See e.g.*, Ex-1005, Figure 16, [0348] ("The mobile payment service debits member [A's] pooled account and credits member B card account.")

And as discussed above, Tumminaro expressly discloses permitting a user to select the account from which funds are obtained to make a purchase, and characterizes this feature as "advantageous[]." *Id.*, [0242].

A POSA would have been motivated to enable a payor to specify a particular funding source as part of communicating a transaction request for a P2P transfer. Ex-1003, ¶ 181. Such a simple modification aligns with Tumminaro's goal of providing "a payment platform that provides a fast, easy way to make payments by individuals or merchants using their mobile devices to access [various] account[s]." *Id.*, [0143].

2. [5l]: "notifying the unbanked subscriber that the specified amount of funds was transferred to the specified recipient over at least one of the plurality of channels connected to the monetary transaction system."

With respect to limitation 5[l], Fintiv did not contend in district court that the order in which the method steps disclosed in claims 1 and 5 is a limitation on the claims. *See* Ex-1014. To the extent Fintiv argues that claim 5 requires the "notifying …" step to be performed *after* the "transferring …" step, a POSA would have understood that modifying Tumminaro's flow in Figure 16 to change the order of these steps would be a trivial adjustment. Tumminaro describes that certain steps (e.g., steps 6 and 7) may be "asynchronous server side threads." Ex-1005, [0348]. A POSA would have accordingly understood that Tumminaro envisions multiple steps occurring at the same time such that the steps are not

limited to following a pre-defined order or sequence. Such a person would have also understood that in an asynchronous process, the start of one step doesn't necessarily require completion of one or more previous steps. Ex-1003, ¶¶ 182-183. Therefore, even though Tumminaro's Figure 16 shows the "notifying …" step occurring before the "transferring …" step, a POSA would have understood that because of the asynchronous nature of the steps, the ordering of the steps is not necessarily limited to a predefined sequence, and modifying Figure 16 to change the order of these steps would be trivial. Ex-1003, ¶ 183.

Similarly, a POSA would have understood that modifying Tumminaro's flow to change the order of these steps would not render Tumminaro's system unsatisfactory for its intended purpose of performing a transaction. To the contrary, doing so would have been obvious to a POSA as it would avoid the scenario of incorrectly notifying a user that the funds were deposited when, in fact, the system subsequently encountered a problem completing the transaction. Therefore, Tumminaro renders this limitation obvious in view of the background knowledge of POSA.

3. Claim 6: "The monetary transaction system of claim 5, wherein validating the status of the specified recipient comprises performing a check on the specified recipient to comply with the office of foreign assets control."

Tumminaro renders this limitation obvious in view of the background knowledge of POSA. Ex-1003, ¶¶ 189-90. See Section V.C.1.j. Additionally,

Tumminaro discloses performing a check for compliance with the Office of Foreign Asset Control ("OFAC") for new account holders. Ex-1005, [0606]. A POSA would have understood that an OFAC compliance performed on new account holders would also typically include performing such a check on the specified recipient when s/he first opened her/his account. This would have the benefit of preventing fraud and enhancing security, which are important considerations in Tumminaro's system. *Id*., [0609].

D. Ground 3: Claims 1-3 Are Rendered Obvious over Tumminaro, Keena, and the Background Knowledge of POSA

1. Claim 1

a. *[Preamble]: "A monetary transaction system for conducting monetary transactions between unbanked subscribers and other entities, the system comprising:"*

Ground 1 is incorporated by reference. Element [1Preamble] is taught by Tumminaro. *See* Section V.C.1.a

b. *[1a]: "a mobile device configured to run a monetary transaction system application;"*

Ground 1 is incorporated by reference. Element [1a] is taught by Tumminaro. *See* Section V.C.1.b.

c. ***[1b]: "an unbanked monetary transaction system subscriber that has a profile with the monetary transaction system, wherein the unbanked subscriber indicates, via the monetary transaction system application, one or more specified transactions that are to be performed using the monetary transaction system;"***

Ground 1 is incorporated by reference. Element [1b] is taught by Tumminaro. *See* Section V.C.1.c.

d. ***[1c]: "a monetary transaction system processor that performs the one or more transactions specified by the unbanked subscriber, wherein performing the specified transactions includes communicating with a monetary transaction database to determine whether the transaction is permissible based on data indicated in the unbanked subscriber's profile;"***

Ground 1 is incorporated by reference. Element [1c] is taught by Tumminaro. *See* Section V.C.1.d.

e. ***[1d]: "at least one entity that is to be involved in the specified transaction, the at least one entity having a profile with the monetary transaction system; and"***

Ground 1 is incorporated by reference. Element [1d] is taught by Tumminaro. *See* Section V.C.1.e.

f. ***[1e]: "wherein the monetary transaction system is implemented to deposit funds at an agent branch through a mobile wallet, including performing the following steps:"***

Tumminaro discloses this limitation. Ex-1003, ¶¶ 191-192. Tumminaro's system discloses depositing funds at an agent branch to a mobile wallet account.

Ex-1005, [0882] ("[t]he [Mobile Client Application and Platform] MCAP is basically a "mobile wallet" or "pay by phone" consumer/mobile-merchant application."). Ex-1005, [0604] ("At times, **account holders may add funds to the pooled account as indicated at 5302**. **Such funds may be deposited at a partner merchant that has agreed to accept funds from account holders which are then deposited into the pooled account**."). Ex-1005, [0173] ("**Merchants may use the POS terminals 311 for financial transactions such as adding funds to a debit card for an account holder**."); [0196] ("Money may be transferred… by depositing cash or check to the prepaid debit account (at a participating merchant or other third party."); [0174] ("most agents may also serve as load agents."); [0262] ("Loading of an account refers to transferring of funds to an account on the mobile payment system where funds may be transacted.").

Tumminaro's disclosures satisfy this limitation even under Fintiv's incorrect interpretation that does not require a physical agent branch. Ex-1005, [0604] ("Alternatively, the account holder may utilize their plastic debit card at an ATM to deposit cash or checks, on the Internet by making an account transfer by telephone, or automatically as specified on the user profile page associated with each account."). *See also id*., [0290]-[0292] and Figure 8.

g. ***[1f]: "receiving communication from an agent branch over one of a plurality of channels connected to the monetary transaction system, the agent communication indicating that the unbanked subscriber desires to deposit a specified amount of funds into the unbanked subscriber's mobile wallet account;"***

Tumminaro in combination with Keena and background knowledge of POSA renders this limitation obvious. Ex-1003, ¶¶ 193-195. As explained above, Tumminaro's "pooled account" serves as "the unbanked subscriber's mobile wallet account." *See* Ex-1005, [0447]. Tumminaro discloses a subscriber depositing funds into the pooled account via a partner merchant ("agent branch"). Ex-1005, [0604] ("**account holders may add funds to the pooled account as indicated at 5302. Such funds may be deposited at a partner merchant that has agreed to accept funds from account holders which are then deposited into the pooled account**."); [0196] ("Money may be transferred from an existing account at a financial service provider partner (such as a banking institution) or by depositing cash or a check to the prepaid debit account (at a participating merchant or other third party).")

To the extent Tumminaro does not expressly disclose "**receiving communication from an agent branch … indicating that the unbanked subscriber desires to deposit a specified amount of funds into the unbanked subscriber's mobile wallet account**," a POSA would have been motivated to incorporate the vendor-submitted communication comprising a request indicating

that a user desires to top-up his/her account, as taught in Keena, into Tumminaro's merchant POS, such that Tumminaro's payment server receives the vendor-submitted communication. Ex-1006, [0047]-[0051] ("**The cash top-up application … allows third party vendors to perform top-ups on behalf of users from a stored value account belonging to the vendor**. … In a particular example, a subscriber approaches the vendor with cash and requests a top-up for $50. **The vendor provides the top-up using their mobile phone as the point of sale device**, making payment for the transaction from their own stored value module in exchange for the cash. … **Using SMS the vendor types a predetermined syntax, which is configurable, wherein the vendor enters a command using syntax that includes the transaction type (e.g. TOP), the subscriber's phone number, and the amount. The vendor then submits *the request* (FIG. 2A) [to the mobile top-up system]**."). In the example shown in Figure 2A (reproduced below), the vendor-submitted communication states "Top 50 35386531998."

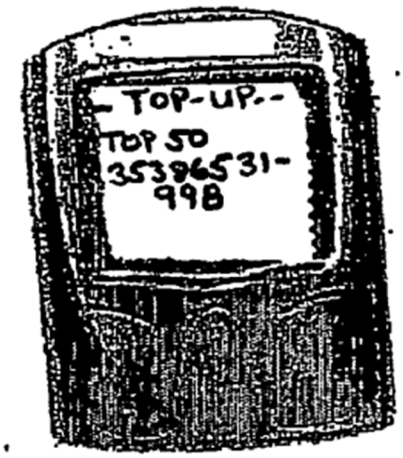


FIG. 2A

Ex-1006, Figure 2A. A POSA would have recognized that during a transaction involving an unbanked subscriber depositing funds into his/her account at the agent branch in the modified Tumminaro-Keena system, Tumminaro's modified POS sending the vendor-submitted communication would result in Tumminaro's payment server receiving such communication "over at least one of the plurality of channels connected to the monetary transaction system." Ex-1003, ¶ 195. Keena's use of *SMS* in sending the vendor-submitted communication serves as the "one of a plurality of channels connected to the monetary transaction system" for receiving the agent communication. Ex-1006, [0051] ("**Using SMS the vendor … submits the request**.) A POSA would have recognized that Keena's use of SMS as a channel is in no way limiting. Ex-1003, ¶ 195. Keena, in fact states that the SMS channel can be substituted for "any other appropriate channel." Ex-1006, [0045].

Tumminaro also discloses communications over "one of a plurality of channels connected to the monetary transaction system." *See* Ex-1005, [0353]. Accordingly, Tumminaro in combination with Keena and background knowledge of POSA renders this limitation obvious.

h. *[1g]: "validating the status of the unbanked subscriber's mobile wallet account;"*

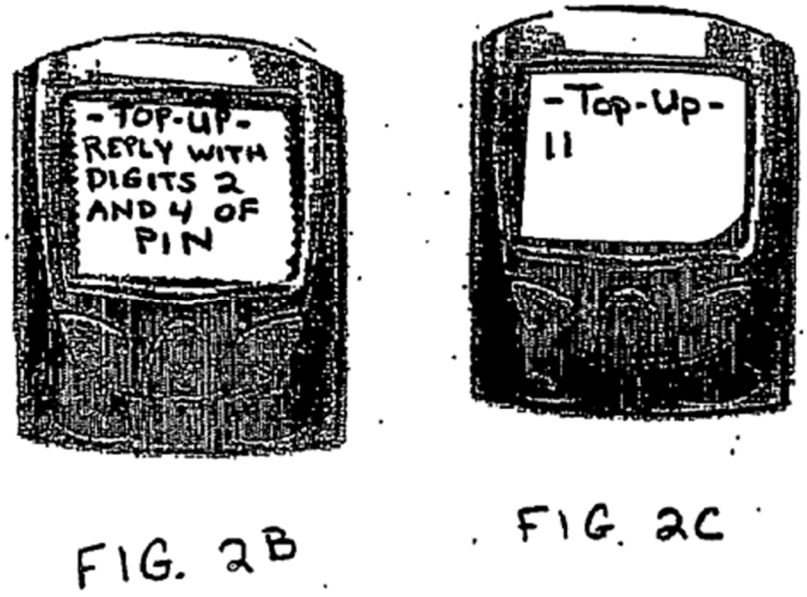
Tumminaro, Keena, and background knowledge of POSA renders this limitation obvious under Petitioners' construction ("determining that the unbanked subscriber's mobile wallet account is allowed to receive the deposited funds."). Ex-1003, ¶ 196. Tumminaro discloses "funds may be deposited at a partner merchant that has agreed to accept funds from account holders which are then **deposited into the pooled account**." Ex-1005, [0604]. Tumminaro explains that such deposits are only available to certain users, such users in the "verified state" that may "add (i.e. load), or withdraw (i.e. unload) money," but not "enrolled" users that can only "receive and request money." *Id.*, Ex-1005 [0276-77], Ex-1003, ¶ 196.. Thus, Tumminaro discloses that the system must validate the status of a user's unbanked subscriber account to determine whether the user is allowed to load funds. Ex-1003, ¶ 196.

i. *[1h]: "determining if the agent branch is authorized to receive deposited money;"*

Tumminaro in combination with Keena and the background knowledge of POSA renders this limitation obvious. Ex-1003, ¶¶ 197-200. As explained above, only merchants that have pre-registered to serve as load agents may deposit funds for users in the Tumminaro system. Ex-1005, [0604] ("**account holders may add funds to the pooled account as indicated at 5302**. **Such funds may be deposited at a partner merchant that has *agreed* to accept funds from account holders which are then deposited into the pooled account**."). Thus Tumminaro discloses determining whether a request to deposit funds originates from one of these partner merchants. Ex-1003, ¶ 197.

To the extent Fintiv argues Tumminaro does not disclose determining if the agent branch is authorized to receive deposited money, a POSA would have found it obvious to further modify Tumminaro's system by incorporating Keena's *PIN challenge* technique of authenticating a vendor, such that the modified Tumminaro-Keena system includes functionality to determine if the agent branch is authorized to receive deposited money. In Keena's PIN challenge, a vendor attempting to perform a top up receives a PIN challenge question to authenticate the vendor. Ex-1006, [0051] ("The vendor then submits the request (FIG 2A). **The mobile top-up system then sends the vendor a PIN challenge (FIG. 2B)**. **The vendor replies with the PIN digits (FIG. 2C)**."). Keena discloses an

exemplary PIN challenge (illustrated in Figure 2B reproduced below) that asks the vendor the second and fourth digits of his/her PIN. The exemplary vendor response (illustrated in Figure 2C reproduced below) are the digits "11."



Ex-1006, Figures 2B-2C. Keena's PIN challenge determines *whether the vendor performing the top-up for a user is authorized to receive deposited money*: "**Access control and authentication for mobile user is provided using PIN, partial PIN, derived PIN** and/or confirmation of additional details (such as personal information) as defined by the operator/distributor.") Ex-1006, [0070]. In other words, if the PIN challenge fails, the top up is being requested by an unauthorized agent branch. Ex-1003, ¶¶ 198-200.

j. ***[1i]: "performing one or more of a limit check and a velocity check on the unbanked subscriber's mobile wallet account, the limit check determining whether sufficient funds are available to make the deposit amount, the velocity check determining whether the unbanked subscriber has exceeded a specified number of transactions within a specified time period;"***

The combination of Tumminaro and Keena renders obvious this limitation. Ex-1003, ¶¶ 201-202. Tumminaro and Keena disclose performing a limit check to determine whether sufficient funds are available to make the deposit amount. A merchant load agent will only deposit or top off the amount of cash physically received from the unbanked subscriber. Ex-1003, ¶ 202. Kenna also describes performing a limit check to determine whether the vendor has sufficient funds to perform the top-up operation. Ex-1006 at [0052]. Both these operations satisfy the "limit check" requirement of this limitation, and the claim only requires at least one of a limit check and a velocity check. Ex-1003, ¶ 202.

Additionally, it would have been obvious at the time of invention to a POSA to implement either or both of limit and velocity checks. As discussed with respect to limitation 5[h], Tumminaro describes both limit checks and velocity checks. It would have been obvious to a POSA at the time of invention to implement one or both checks for a deposit, in order to safeguard against fraud and maintain compliance with AML regulations. *Id.* For example, adding a velocity check would guard against an attempt to fraudulently deposit numerous counterfeit bills by

splitting up what would otherwise be a single large deposit into numerous smaller deposits. *Id.,* ¶204.

k. *[1j]: "crediting the unbanked subscriber's mobile wallet account with the specified amount of funds when the agent bank is authorized to receive the deposited money;"*

Tumminaro in combination with Keena and background knowledge of POSA renders this limitation obvious. Ex-1003, ¶ 203. As explained above, Tumminaro's "pooled account" serves as "the unbanked subscriber's mobile wallet account." *See* Ex-1005, [0447]. Tumminaro discloses "crediting the unbanked subscriber's mobile wallet account with the specified amount of funds." Ex-1005, [0604] ("At times, a**ccount holders may add funds to the pooled account as indicated at 5302. Such funds may be deposited at a partner merchant that has agreed to accept funds from account holders which are then deposited into the pooled account**."). Thus, depositing funds into the pooled account "credit[s] the unbanked subscriber's mobile wallet account with the specified amount of funds." As explained above, as a result of incorporating Keena's cash top-up method including the PIN challenge into Tumminaro's system, the resulting Tumminaro-Keena system uses the vendor-provided response to the PIN challenge to determine "when the agent bank is authorized to receive the deposited money." Ex-1006, [0051] and Figure 2C.

l. *[1k]: "returning a notification to the agent branch confirming the deposit; and"*

Tumminaro in combination with Keena and background knowledge of POSA renders this limitation obvious. Ex-1003, ¶¶ 204-205.

Keena discloses a top-up confirmation message. Ex-1006, [0051], ("**The vendor** replies with the PIN digits (FIG. 2C) and then **receives confirmation of the top-up including the new stored value module balance of $320 (FIG. 2D)**."). In the example shown in Figure 2D (reproduced below), the top-up confirmation message sent to the vendor states "Top-up Completed-Balance: 320."

FIG. 2D

Ex-1006, Figure 2D. It would have been obvious to further modify Tumminaro's POS at the merchant/vendor/agent location by incorporating Keena's *top-up confirmation message sent to the vendor* such that the resulting Tumminaro-Keena system "return[s] a notification to the agent branch confirming the deposit." Ex-

1003, ¶ 205. Such a result would have been desirable (and recognized by a POSA as such) because it would prevent the agent branch from erroneously trying to repeat the transaction. *Id.* A POSA would have recognized that in the modified Tumminaro-Keena system, after the vendor is validated, Tumminaro's modified POS at the merchant/vendor/agent location receives a top-up confirmation message (*e.g.*, as shown in Figure 2D), which serves as Tumminaro's payment server "returning a notification to the agent branch confirming the deposit."

m. ***[1l]: "notifying the subscriber that the specified amount of funds was deposited in the unbanked subscriber's mobile wallet account over at least one of the plurality of channels connected to the monetary transaction system."***

Tumminaro in combination with Keena and background knowledge of POSA renders this limitation obvious. Ex-1003, ¶¶ 206-207.

Keena also discloses a top-up confirmation message sent to the subscriber. Ex-1006, [0051] ("**The subscriber also receives a top-up acknowledgement via SMS. (FIG. 2E)**."). In the example shown in Figure 2E (reproduced below), the top-up confirmation message sent to the subscriber states "Your Account Has Been Topped Up By 50."

FIG. 2E

Ex-1006, Figure 2E. It would have been obvious to modify Tumminaro's system including the mobile client application running on the unbanked subscriber's mobile device by incorporating Keena's *top-up confirmation message sent to the subscriber* such that Tumminaro's payment server "notif[ies] the subscriber that the specified amount of funds was deposited in the unbanked subscriber's mobile wallet account." One reason for including such a notification in Tumminaro's system is desirable because notifying the user that the deposit succeeded and funds are available allows the user to spend the money (e.g., to pay a bill) without worrying about a declined transaction for insufficient funds. A POSA would have recognized that in the modified Tumminaro-Keena system, the subscriber receives a top-up confirmation message (*e.g.*, as shown in Figure 2E) on his/her mobile

device, which serves as Tumminaro's payment server "notifying the subscriber that the specified amount of funds was deposited in the unbanked subscriber's mobile wallet account over at least one of the plurality of channels connected to the monetary transaction system." Keena's use of *SMS* in sending the top-up confirmation message sent to the subscriber serves as the "one of a plurality of channels connected to the monetary transaction system" for notifying the subscriber of the deposit. Ex-1006, [0051] ("**The subscriber also receives a top-up acknowledgement via SMS.**) A POSA would have recognized that Keena's use of SMS as a channel is in no way limiting. Keena, in fact states that the SMS channel can be substituted for "any other appropriate channel." Ex-1006, [0045]. Tumminaro, taken alone or in combination with Keena, also discloses communications over "one of a plurality of channels connected to the monetary transaction system." *See* Ex-1005, [0353]. Accordingly, Tumminaro in combination with Keena and background knowledge of POSA renders this limitation obvious.

2. Claim 2: "*The monetary transaction system of claim 1, wherein the monetary transaction system application provides a web interface that allows subscribers to perform the same functions provided by the monetary transaction system application.*"

Tumminaro discloses this limitation. Ex-1003, ¶ 0208. Ex-1005, [0039] ("**[T]he invention is a financial transactions system including** a consumer

interface, connected to a network, including: **a Web interface to handle transaction requests from a Web browser client**; **a mobile Internet browser interface to handle transaction requests from a mobile Internet browser on a mobile phone client**; an SMS interface to handle transaction requests using SMS text messaging; and **a mobile client application interface to handle requests from a mobile client application executing on mobile phone client**."). Ex-1005, [0353] ("**payments may be requested from any of the available channels** (e.g., mobile phone, instant messenger, e-mail, **Web**" and the "**system may also be used to pay through** payment terminals, **interactive web sites**"); *see also id*., [0034].

3. Claim 3: "*The monetary transaction system of claim 1, wherein the monetary transaction system application is provided on a prepaid or postpaid phone.*"

Tumminaro discloses this limitation. Ex-1003, ¶ 209. Ex-1005, [0260] ("The system may interface with wireless phones handle by any of multiple carriers, such as Verizon, Cingular (AT&T), Sprint, Nextel, Alltel, Virgin Mobile, Amp'd Mobile, U.S. Cellular, T-Mobile, and others. **The service may also interface with prepaid phones**."). Ex-1005, [0353] (Tumminaro's "**system may also be used to pay through** payment terminals, interactive web sites, … **prepaid phones**, and many others").

E. Fintiv Has Not Identified Any Secondary Considerations of Nonobviousness

Fintiv has not identified any Secondary Indicia of Non-Obviousness. Ex-1028. Petitioners reserve the right to respond to any assertion of secondary indicia of non-obviousness advanced by Patent Owner.

VII. The Parallel District Court Proceeding Does Not Warrant a Discretionary Denial

Fintiv's case against Apple in the Western District of Texas gave birth to the Board's *Fintiv* test for discretionary denial. *Apple Inc. v. Fintiv, Inc.,* IPR2020-00019, 2020 WL 2126495 (P.T.A.B. Mar. 20, 2020). Tellingly, more than ***three years*** after the Board laid out the *Fintiv* test and relied on the district court's scheduled trial date, Fintiv's case against Apple has yet to go to trial. Ex-1029 (granting Fintiv's motion for a trial continuance). And the Federal Circuit recently reversed the Northern District of California's decision to dismiss Apple's challenge to the Director's instructions to the Board on the application of the *Fintiv* test. *Apple Inc. v. Vidal,* No. 2022-1249, 2023 WL 2469635 (Fed. Cir. Mar. 13, 2023)

Under the Director's interim procedure for evaluating requests for discretionary denial under 35 U.S.C. §314(a), regardless of any factors that otherwise apply, "the PTAB will not discretionarily deny institution of an IPR or PGR in view of parallel district court litigation where a petitioner stipulates not to

pursue in a parallel district court proceeding the same grounds as in the petition or any grounds that could have reasonably been raised in the petition." *Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation*, 7 (USPTO Dir. June 21, 2022). Petitioners stipulate that, should the Board institute review, Petitioners will not pursue in parallel district court proceedings the same grounds as in the Petition or any grounds that could have reasonably been raised in the petition.

Factors 3 and 4 favor institution: the issues raised in this Petition and the parallel proceeding will not overlap. There has been minimal investment by the Court and parties in the parallel litigation. Although the claims have been construed, fact discovery has only just begun. The parties have taken no depositions beyond venue discovery depositions. With respect to overlap of issues, Petitioners intend to rely on system-based prior art in the district court and invalidity theories under § 112 which cannot be raised before the PTAB. PayPal has also filed a Rule 12(c) motion on § 101 grounds, which also cannot be raised before the PTAB.

Only Factor 5 does not favor institution. Factors 1 and 2 are neutral—PayPal Holdings, Inc.'s transfer motion to the Austin Division of the Western District of Texas has been ripe for adjudication since December, and transfer of

this action would almost certainly result in a trial date later than the currently scheduled date of November 30, 2023.

While Applicant cited Tumminaro and Keena in the prosecution of the '845 patent, this should not weigh in favor of discretionary denial. Tumminaro and Keena[3] were listed among 140 prior art references spanning six pages of IDS, entered into the record only a month before the notice of allowance issued. Ex-1002 at 64, 106. But the Examiner did not describe, address or substantively apply either reference in rejecting the claims. Nor did Applicant provide a discussion of these references in these IDSs. *See* Board's decision granting institution in *STMicroelectronics, Inc. v. The Trustees of Purdue Univ.*, IPR2022-00309, Paper 14 (PTAB Jul. 6, 2022) (citing *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH* IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13,

[3] Keena was also cited in the Search Report issued by the International Searching Authority in connection with International Application No. PCT/US2012/040131. Ex-1002 at 1144. The Written Opinion states that "Keena does teach at least one entity that is to be involved in the specified transaction, the at least one entity having a profile with the monetary transaction system," allegedly pointing to paragraphs Keena [0012] for "profiles" and [0038] "subscribers are not banked." *Id.*, 1150.

2020)). *See also Amgen Inc. v. Alexion Pharm., Inc*., IPR2019-00740, Paper 15 at 65 (PTAB Aug. 30, 2019).

Importantly, discretionary denial is not warranted because this petition presents compelling evidence of unpatentability. As discussed above, the examiner's reasons for allowance characterizes the language of the independent claims to be the same even though they cover different embodiments, and further independent claim 5 does not recite the Examiner's own amendments "when the agent bank is authorized to receive the deposited money" to claim 1 that was the basis for allowance. *See* IV.D.

Thus, the Board should not exercise discretion to deny institution under §314(a).

VIII. Mandatory Notices

A. Real Parties-in-Interest

Petitioners PayPal Holdings, Inc. and PayPal, Inc. are the real parties-in-interest. No other party had access to or control over the present Petition, and no other party funded or participated in preparation of the present Petition.

B. Related Proceedings

No previous IPR or post-grant proceeding has been filed challenging the '845 patent. The '845 patent has been asserted by Fintiv in the following district court litigation: *Fintiv, Inc. v. PayPal Holdings, Inc.*, No. 6:22-cv-00288-ADA (W.D. Tex.). Ex-1009. In addition to the '845 patent, this lawsuit concerns claims of U.S.

Patent Nos. 9,892,386 (the "'386 patent"), 11,120,413 (the "'413 patent"), 9,208,488 (the "'488 patent"), and 10,438,196 (the "'196 patent"). On January 9, 2023, the Court issued a final claim construction order finding the claim term "payment handler" / "payment handler service" indefinite under 35 U.S.C. § 112(f), which rendered the asserted claims of the '386 patent, the '413 patent, and the '488 patent invalid. *See* Ex-1012 at 2.

The '386 patent is in the same family as the '845 patent, and is challenged in *Apple Inc. v. Fintiv, Inc.,* IPR2022-00976. The '488 patent is challenged in *Apple Inc. v. Fintiv, Inc.,* IPR2022-00399, and the '196 patent is challenged in *Apple Inc. v. Fintiv, Inc.,* IPR2023-00399.

C. Lead and Backup Counsel

Petitioner's lead and backup counsel are:

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D. Electronic Service

Petitioners consent to electronic service at:

Winston-Paypal-Fintiv@winston.com.

IX. Fees

The required fee is being paid electronically through P-TACTS.

X. Conclusion

Petitioners respectfully request that the Board institute IPR and enter a final written decision finding the Challenged Claims unpatentable.

Dated: March 24, 2023

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

This Petition complies with the word count limits set forth in 37 C.F.R. § 42.24(a)(1)(i), because this Petition contains 13,971 words, excluding the parts of the Petition exempted by 37 C.F.R. § 42.24(a)(1), determined using the word count provided by Microsoft Word, which was used to prepare this Petition.

Dated: March 24, 2023

Respectfully submitted,

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CERTIFICATE OF SERVICE

Under 37 C.F.R. §§ 42.6(e) and 42.105(a), this is to certify that on March 24, 2023, I caused to be served a true and correct copy of the foregoing "**PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,538,845**" and Exhibits 1001-1031 by Federal Express on the Patent Owner at the correspondence address of record for U.S. Patent No. 8,538,845:

Workman Nydegger
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Salt Lake City, UT

A courtesy copy of this Petition and supporting material was also served on litigation counsel for Patent Owner via email:

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