

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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TRUIST BANK,

Petitioner,

v.

UNITED SERVICES AUTOMOBILE ASSOCIATION,

Patent Owner.

U.S. Patent No. 11,544,944

Filing Date: July 10, 2019

Issue Date: January 3, 2023

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Case No. IPR2023-00829

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**PETITION FOR *INTER PARTES* REVIEW OF  
U.S. PATENT NO. 11,544,944**

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**LIST OF EXHIBITS**

| <b>Exhibit #</b> | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                      |
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| 1001             | U.S. Patent No. 11,544,944 (“the ’944 patent”)                                                                                                                                                                                                                                                                                                                                                                          |
| 1002             | Prosecution File History of U.S. Patent No. 11,544,944                                                                                                                                                                                                                                                                                                                                                                  |
| 1003             | Declaration of Dr. David Doermann                                                                                                                                                                                                                                                                                                                                                                                       |
| 1004             | Curriculum Vitae of Dr. David Doermann                                                                                                                                                                                                                                                                                                                                                                                  |
| 1005             | International Patent Publication No. WO 2005/043857 (“Garcia”)                                                                                                                                                                                                                                                                                                                                                          |
| 1006             | U.S. Patent No. 7,792,753 (“Slater”)                                                                                                                                                                                                                                                                                                                                                                                    |
| 1007             | U.S. Patent No. 7,027,171 (“Watanabe”)                                                                                                                                                                                                                                                                                                                                                                                  |
| 1008             | U.S. Patent Publication No. 2006/0106717 (“Randle”)                                                                                                                                                                                                                                                                                                                                                                     |
| 1009             | U.S. Patent Publication No. 2006/0026140 (“King”)                                                                                                                                                                                                                                                                                                                                                                       |
| 1010             | U.S. Patent Publication No. 2006/0152576 (“Kiessling”)                                                                                                                                                                                                                                                                                                                                                                  |
| 1011             | ANS X.100-160-1-2004, Part 1: Placement and Location of Magnetic Ink Printing (MICR), American National Standard for Financial Services (Approved Oct. 15, 2004)                                                                                                                                                                                                                                                        |
| 1012             | U.S. Patent Publication No. 2006/0164682 (“Lev”)                                                                                                                                                                                                                                                                                                                                                                        |
| 1013             | Reed, John, FT.com site: Mobile users branch out, FT.com, <i>available at</i> <a href="https://www.proquest.com/pqrl/printviewfile?accountid=35635">https://www.proquest.com/pqrl/printviewfile?accountid=35635</a> (Oct. 6, 2005)                                                                                                                                                                                      |
| 1014             | U.S. Patent Application Publication 2005/0097046 (“Singfield”)                                                                                                                                                                                                                                                                                                                                                          |
| 1015             | U.S. Patent No. 5,664,027 (“Ittner”)                                                                                                                                                                                                                                                                                                                                                                                    |
| 1016             | <i>PNC Bank N.A. v. United Servs. Auto. Ass’n</i> , IPR2021-01077, Paper 73 (PTAB Jan. 20, 2023)                                                                                                                                                                                                                                                                                                                        |
| 1017             | U.S. Reissued Patent No. RE44,274 (“Popadic”)                                                                                                                                                                                                                                                                                                                                                                           |
| 1018             | U.S. Patent Application Publication No. 2005/0267843 (“Acharya”)                                                                                                                                                                                                                                                                                                                                                        |
| 1019             | “Reserve Banks to Adopt DSTU X9.37-2003 Format for Check 21 Image Services,” Fed. Reserve Bank of Minneapolis Fin. Serv. Policy Comm., May 18, 2004 (retrieved from <a href="https://web.archive.org/web/20040609221704/http://www.frbsecurities.org/Retail/pdf/PRFormatForCheck21ImageSvc.pdf">https://web.archive.org/web/20040609221704/http://www.frbsecurities.org/Retail/pdf/PRFormatForCheck21ImageSvc.pdf</a> ) |
| 1020             | U.S. Patent Application Publication No. 2005/0190269 (“Grignani”)                                                                                                                                                                                                                                                                                                                                                       |
| 1021             | US Patent Publication No. 2005/0281448 (“Lugg”)                                                                                                                                                                                                                                                                                                                                                                         |
| 1022             | U.S. Patent No. 6,181,837 (“Cahill”)                                                                                                                                                                                                                                                                                                                                                                                    |
| 1023             | U.S. Patent Publication No. 2006/0112013 (“Maloney”)                                                                                                                                                                                                                                                                                                                                                                    |

|      |                                                                                                                                                                                                  |
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| 1024 | Public Version of USAA’s Opposed Motion for Leave to File the First Amended Complaint, <i>United Servs. Auto. Ass’n v. Truist Bank</i> , Case No. 2:22-cv-00291-JRG-RSP, Dkt. 69 (Mar. 20, 2023) |
| 1025 | “Camera Phone Shoot-Out,” Phone Scoop, Dec. 18, 2002 (retrieved from <a href="https://lwww.phonescoop.com/articles/article.php?a=12">https://lwww.phonescoop.com/articles/article.php?a=12</a> ) |

## I. INTRODUCTION

Petitioner requests *inter partes* review of U.S. Patent No. 11,544,944 (“’944 patent”), assigned to United Services Automobile Association (USAA). In a related proceeding (IPR2021-01077), the Board issued a Final Written Decision finding a related patent (U.S. Patent No. 10,621,559) with similar claims unpatentable in view of the same references asserted in this petition. IPR2021-01077, Paper 73. Any additional elements in the ’944 patent claims, like a “downloaded app,” were trivial, well-known elements.

## II. PRECISE RELIEF REQUESTED FOR CHALLENGED CLAIMS

Petitioner requests review of claims 1-20. Assuming an effective filing date of October 31, 2006, pre-AIA law applies.

|                 |                                                                                                                   |
|-----------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Ex. 1005</b> | International Publication No. WO 2005/043857 (“Garcia”), published May 12, 2005; prior art under §§ 102(a), (b).  |
| <b>Ex. 1006</b> | U.S. Patent No. 7,792,753 (“Slater”), filed July 7, 1999, and issued September 7, 2010; prior art under § 102(e). |
| <b>Ex. 1007</b> | U.S. Patent No. 7,027,171 (“Watanabe”), filed March 29, 2000, published April 11, 2006; prior art under § 102(b). |

|                 |                                                                                                                                             |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ex. 1008</b> | U.S. Patent Publication No. 2006/0106717 (“Randle”), filed May 15, 2004, and published May 18, 2006; prior art under §§ 102(a), (e).        |
| <b>Ex. 1009</b> | U.S. Patent Publication No. 2006/0026140 (“King”), filed April 1, 2005, and published February 2, 2006; prior art under §§ 102(a), (e).     |
| <b>Ex. 1010</b> | U.S. Patent Publication No. 2006/0152576 (“Kiessling”), filed January 11, 2005, and published July 13, 2006; prior art under § 102(a), (b). |

The challenged claims are unpatentable under 35 U.S.C. § 103(a) under the following grounds:

|                  |                                                                                                              |
|------------------|--------------------------------------------------------------------------------------------------------------|
| <b>Ground 1a</b> | Garcia in view of King and Slater renders obvious claims 1,5, 7-9.                                           |
| <b>Ground 1b</b> | Garcia in view of King, Watanabe, and Slater renders obvious claims 1, 5, 7-9.                               |
| <b>Ground 2a</b> | Garcia in view of King, Slater, and Randle renders obvious claims 2-4, 6, 10-14, 16-17, and 19-20.           |
| <b>Ground 2b</b> | Garcia in view of King, Watanabe, Slater, and Randle renders obvious claims 2-4, 6, 10-14, 16-17, and 19-20. |
| <b>Ground 3a</b> | Kiessling in view of Randle and King renders obvious claims 14-20.                                           |
| <b>Ground 3b</b> | Kiessling in view of Randle, King, and Watanabe renders obvious claims 14-20.                                |

### III. THE '944 PATENT

The '944 patent family starts about two years after The Check Clearing for the 21st Century Act ("Check 21") went into effect. Ex. 1011, 1. The '944 patent discloses processing check images captured by a customer's remote image capture device. Ex. 1001, 2:51-54. The remote capture device displays instructions to a customer to ensure that the captured image meets certain criteria. *Id.*, 2:54-3:3.

An account owner 110 uses a “**general purpose computer 111**” (a PC) having an “**image capture device 112**” (a scanner or digital camera). *Id.*, 3:59-60, 4:10-27. And a financial institution 130 has a **server 131** for “communicating with customers” over a **communication network 120** (the Internet), *id.*, 3:61-4:1, 7:19-21, and for communicating with other financial institutions via a network 125, *id.*, 4:6-9.

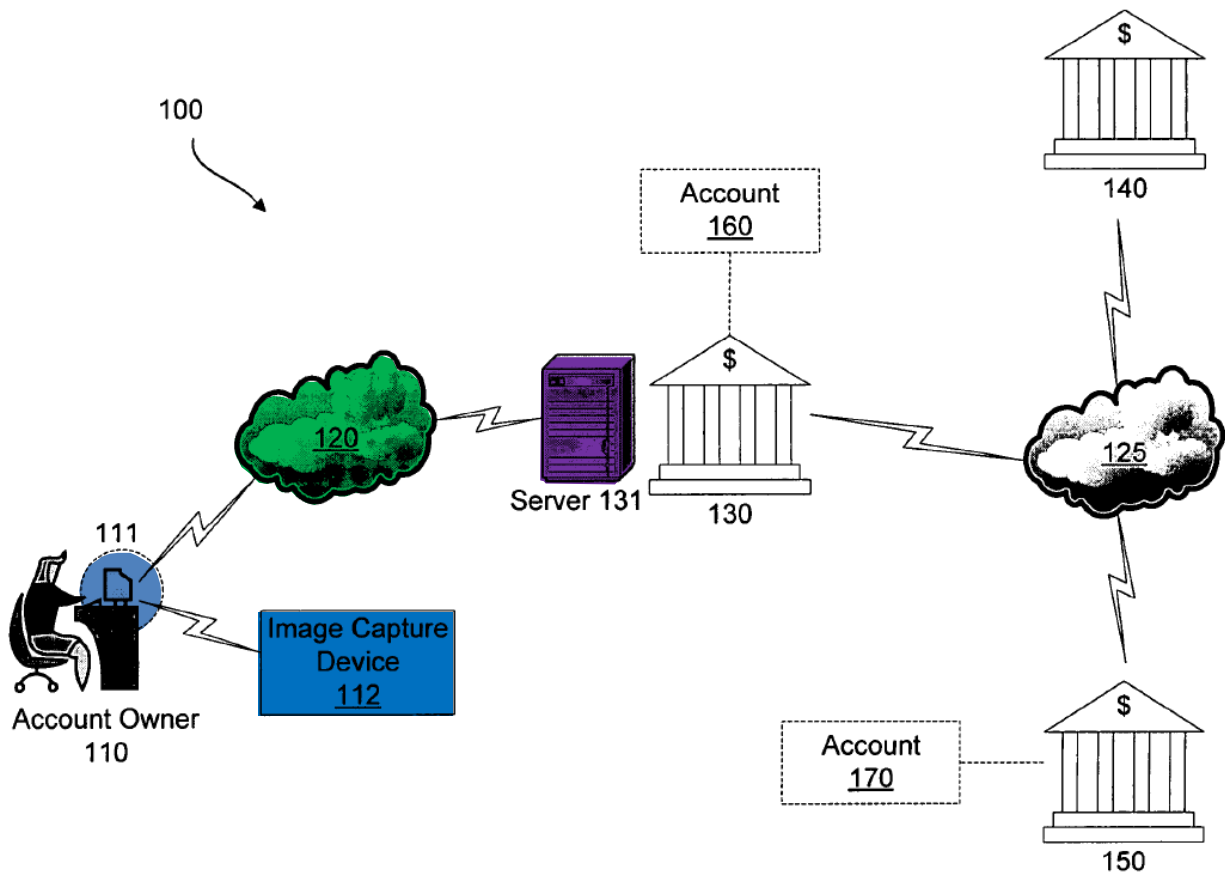


**FIGURE 1**

Ex. 1001, FIG. 1 (annotated).

The **remote capture device** includes computer software for providing instructions to a customer on how to capture a check image. *Id.*, 14:1-13. The captured image is sent to the **server** (*id.*, 9:33-43) that checks for errors in the check by performing optical character recognition on the check amount and comparing it to the customer-entered amount (*id.*, 11:43-55), detecting duplicates (*id.*, 11:19-23), and confirming that a signature is present in an endorsement location (*id.*, 12:30-40). Also, the patent discloses converting the photo into a bi-tonal Tag Image File Format (TIFF) consistent with the requirements of Check 21 regulation. *Id.*, 12:41-50. Doermann, 30-37.

#### **IV. LEVEL OF ORDINARY SKILL**

A person of ordinary skill in the art (“POSA”) of the ’944 patent would have had either: (1) a Bachelor of Science degree in Electrical Engineering, Computer Engineering, Computer Science, or an equivalent field, with at least two years of academic or industry experience in financial technology, including image processing; or (2) a Master of Science degree in Electrical Engineering, Computer Engineering, Computer Science, or an equivalent field, with at least a year of academic or industry experience in the same field. Higher levels of education may offset less experience and vice versa. Doermann, 23-25.

## V. CLAIM CONSTRUCTION

The Board construes claims per *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). For this IPR, the plain meaning of each claim term can be applied. Doermann, 26-29. Petitioner reserves the right to contend that any of the Challenged Claims is indefinite.

## VI. GROUNDS 1a AND 1b: CLAIMS 1, 5, AND 7-9 ARE UNPATENTABLE OVER GARCIA IN VIEW OF KING, [WATANABE (1B)], AND SLATER

### A. Overview of the Combination

#### 1. Garcia

Like the '944 patent, Garcia discloses a remote check deposit system that uses “a mobile device equipped with a **built-in camera**” to capture a digital image of both sides of the check, digitally encrypt the image and associated data (the check amount and check number manually entered by the user), and transmit the encrypted digital image and associated data over a **network** “to the **institution** that needs to accept the document.” Garcia, 4:13-6:21, 7:18-22, 9:10-11:6, 12:5-13. Doermann, 40-43.

The **financial institution** has “computer equipment connected to the internet that is equipped with an optical character recognition (OCR) system, a key authentication system, and a means for transmitting the data to the institution’s document processing system,” which recognizes, verifies, and processes the

information sent by the user. Garcia, 11:8-15. The **institution** validates the message and “obtain[s] a digital photograph of the check and a series of data that enable it to automatically process the deposit of said check into the account of the service user” by “the usual means (truncating systems).” *Id.*, 12:16-21, 11:15-18. Doermann, 44.

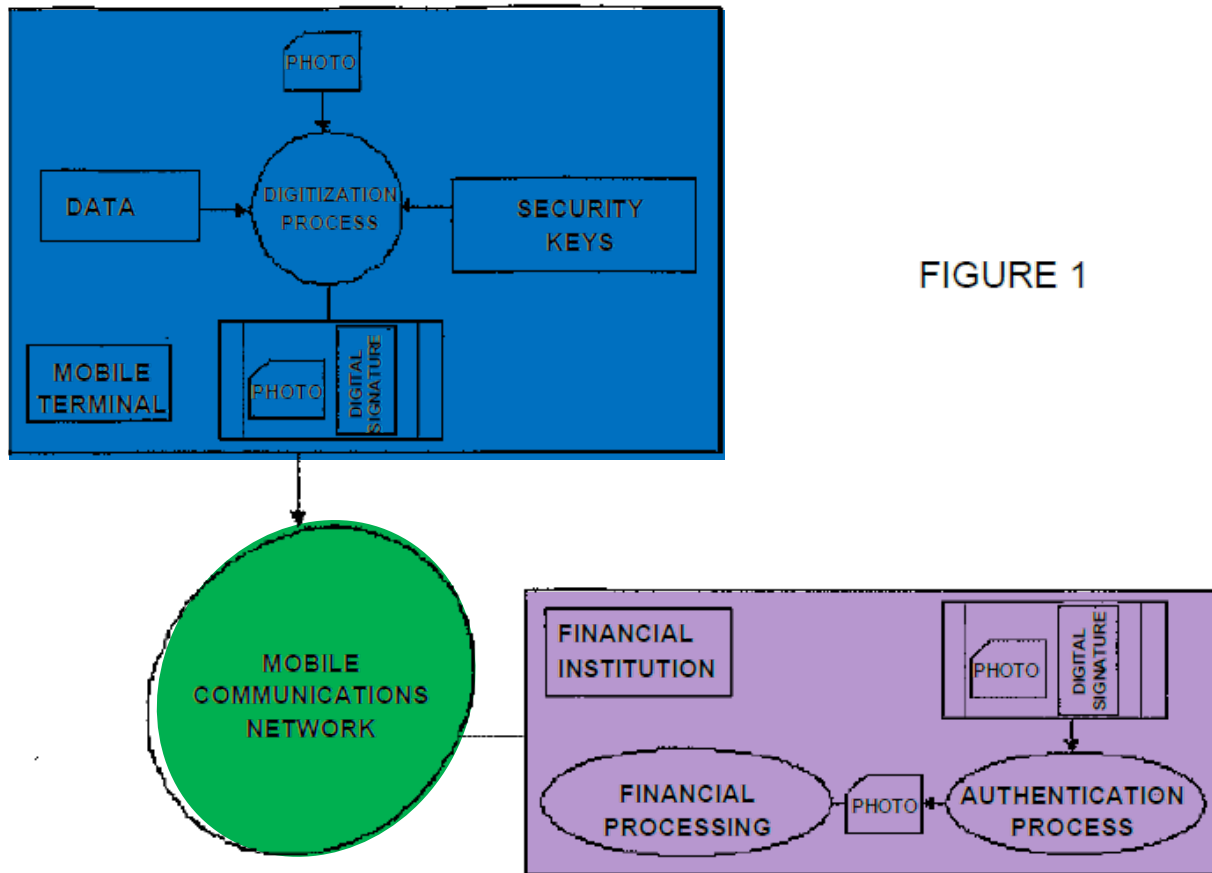


FIGURE 1

Garcia, FIG. 1 (annotated).

## 2. King

King discloses document imaging and processing systems for capturing images of paper documents. One configuration uses a separate imaging device in communication with a “host” device “such as a PC [Personal Computer], PDA

[(Personal Digital Assistant)], phone or digital camera.” *Id.*, [0231]. Another configuration uses capture functionality “built into” a “mobile phone, PDA, digital camera or portable music player.” *Id.*, [0231], [0277]. Using a mobile device with a camera to capture images of paper documents is ubiquitous throughout King. *Id.*, [0021] (“optical capture using a scanner or camera (for example a camera in a cellphone)”), [0031], [0035], [0042], [0110], [0211], [0227], [0305]-[0308], [0307] (“the camera built into many mobile phones is used to capture an image of the text”),

FIG. 2:

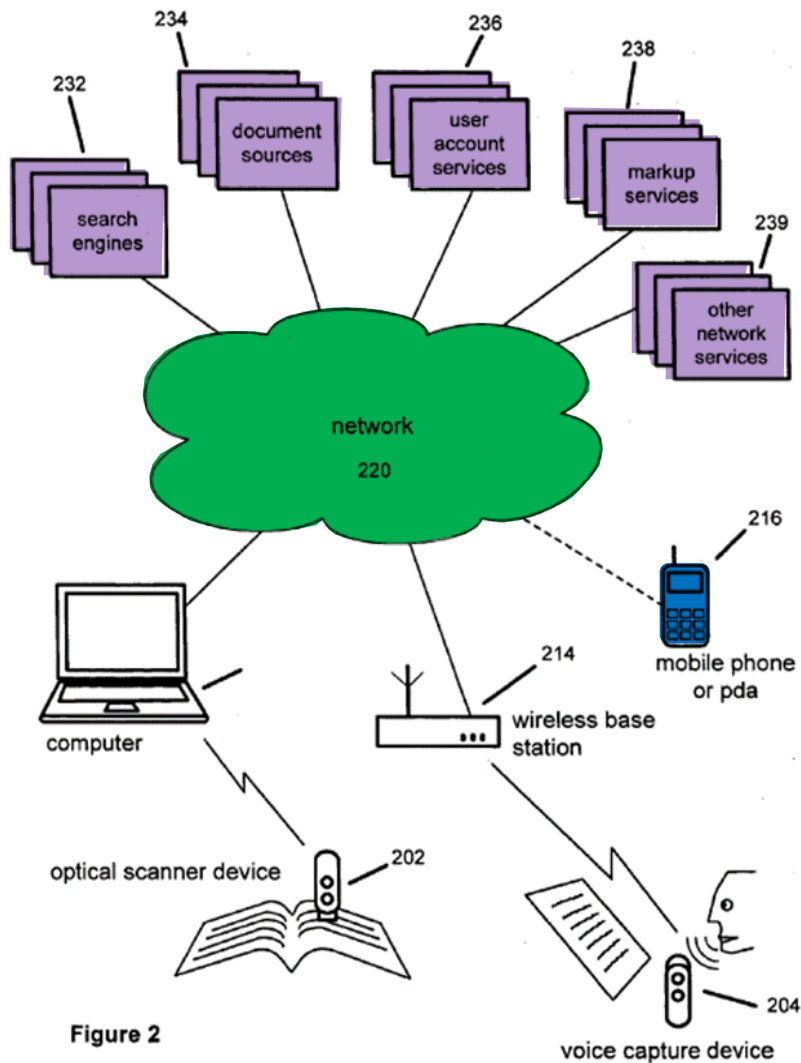


Figure 2

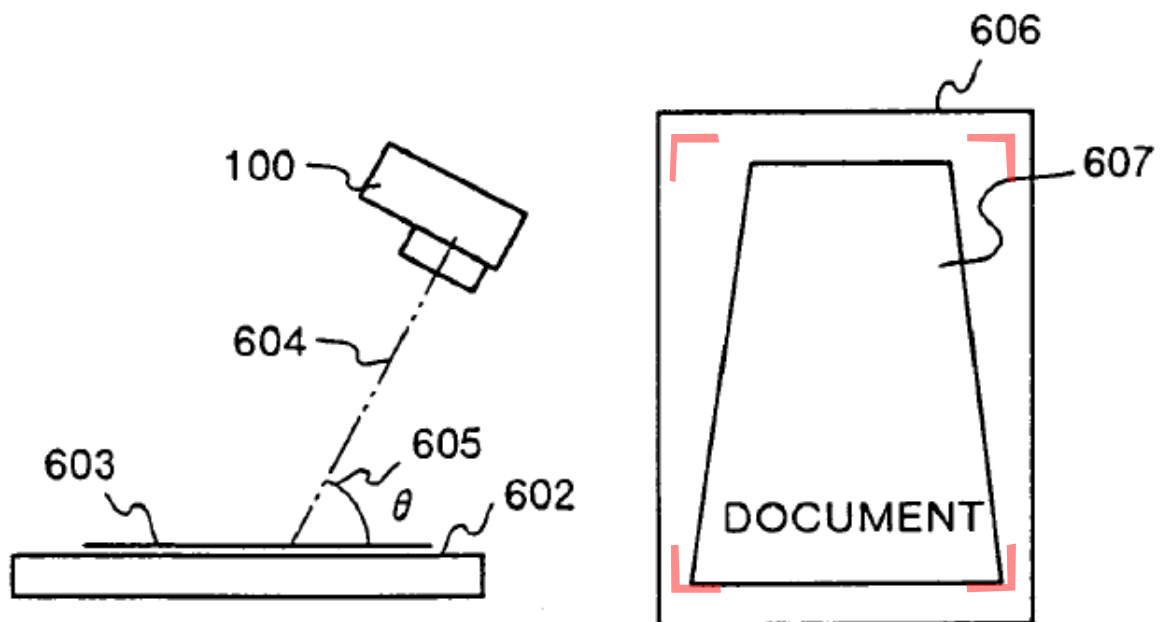
King, FIG. 2 (annotated).

King discloses that “[m]any modern phones have the ability to download software that could implement some parts of the system.” *Id.*, [306]. Doermann, 45-46.

### 3. Watanabe

Watanabe discloses a digital camera for capturing a document image. Watanabe, 1:7-10. The digital camera includes a display that displays a picture of

the document and guidance (a guidance frame) to assist the user with properly orienting the document and image capture device and capturing an image suitable for OCR. *Id.*, 7:16-35. Watanabe's system also "notifies the operator of a message to the effect that the angle of photography is not vertical (guidance display or the like is performed)." *Id.*, 12:17-22. Doermann, 47.



Watanabe, FIG. 5B (annotated as disclosed by Watanabe).

#### 4. Slater

Slater discloses a system for depositing a check at a "remote" "deposit location," separate from a "check processing location." Slater, 2:10-14, 4:1-26. Slater discloses "scanning a check to create an electronic image of the front and back of the check, captur[ing] the MICR code line data through ... optical character recognition (OCR) technology, and then processing and transmitting the scanned

check and captured MICR code line data electronically to a **central location**.” *Id.*, 2:42-48. The check is “presented in an electronic access location, such as an automatic teller machine (ATM), a **customer access terminal (CAT)**, or other check scanning depository terminal connected to a **network**.” *Id.*, 2:54-58. The customer inputs the check amount. *Id.*, 4:56-60. The CAT validates the check using “Courtesy A[mount] Recognition (CAR) software and Legal Amount Recognition (LAR) software” to “determine the check amount” and compares “the scanned amount and the entered amount.” *Id.*, 4:60-66. If the scanned amount matches the entered amount, “the transaction proceeds.” *Id.*, 4:65-66-5:3; Doermann, 48.

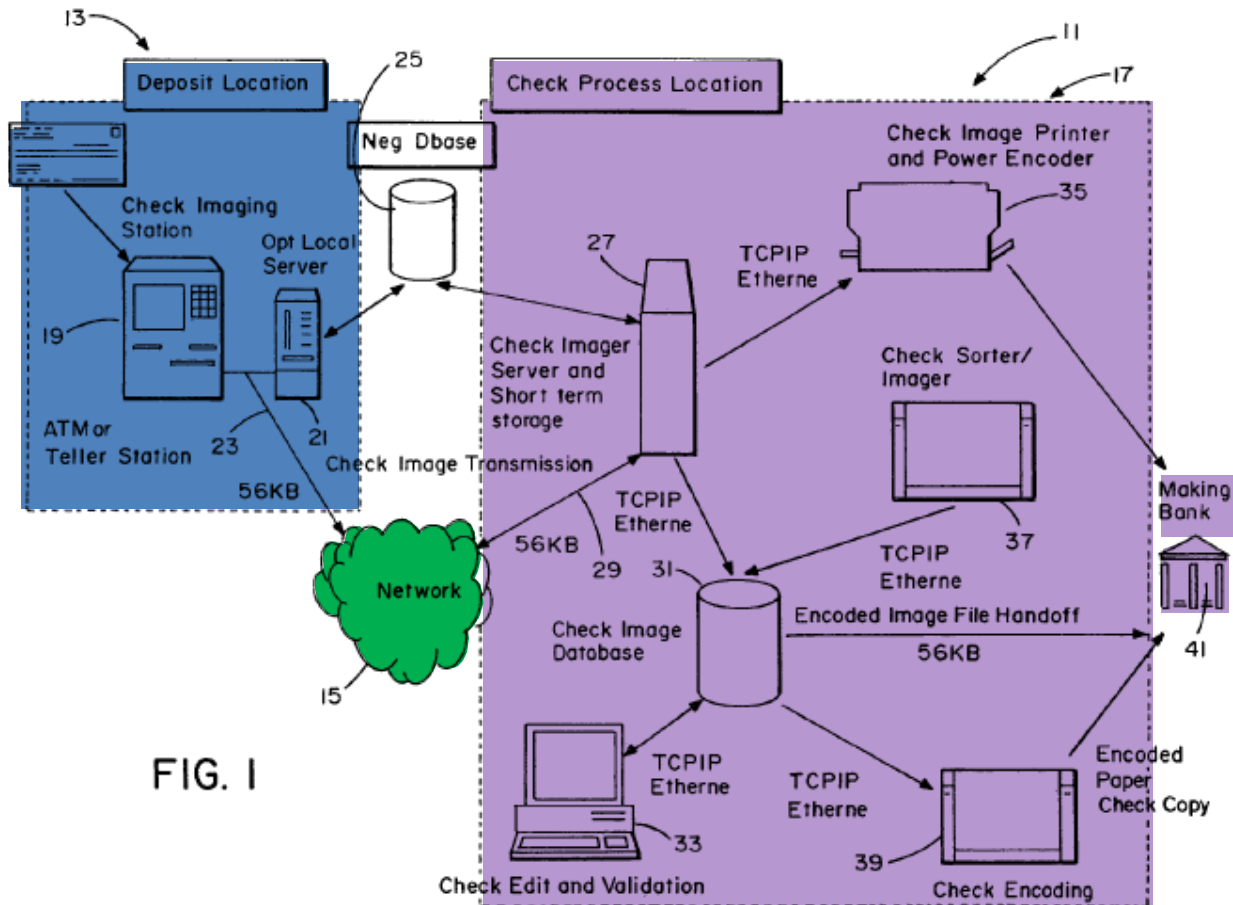


FIG. 1

Slater, FIG. 1 (annotated).

## B. Rationale for Combining Garcia, King, [Watanabe (1b)], and Slater

### 1. The References Are Analogous Art and Share a Common Architecture

The references are analogous to the '944 patent because they are in the same field of endeavor: electronically capturing of documents for transmission over a network. Doermann, 50; *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). The '944 patent claims capturing a check image with a digital camera in a mobile phone, assisting a customer in taking the check photo, transmitting the photo to the bank to

check for any errors in the check, and depositing the check if no errors are detected.

Ex. 1001, claim 1. Doermann, 50.

**Garcia** discloses using a mobile phone with a built-in digital camera to capture a check image, transmitting the image over the network to the receiving institution, where the check information is validated, and “automatically process[ing] the deposit of said check into the account of the service user.” Garcia, 4:13-19, 7:18-8:13, 11:8-18, 12:16-21. Doermann, 51.

**King** discloses a system for using a mobile device equipped with a digital camera and downloadable software to capture images of paper documents and transmit them through the network. King, [0300]-[0309]. Doermann, 52.

**Watanabe** discloses a digital camera for imaging a paper document in “any data format that a destination (a facsimile or a personal computer) selected by a user requires.” Watanabe, Abstract. Doermann, 53.

**Slater** discloses processing a check for remote deposit using a customer access terminal (“CAT”), which scans the check, collects Magnetic Image Character Recognition (“MICR”) code line and other check information and deposit account, and transmits the image and data directly to an image remote system for processing. Slater, 2:10-14. Doermann, 54.

Because all references generally disclose electronically capturing images of documents for transmission over a network using well-known components, a POSA

would have found them combinable with a reasonable expectation of success. Doermann, 55.

**2. Combining Garcia, King, Watanabe, and Slater**

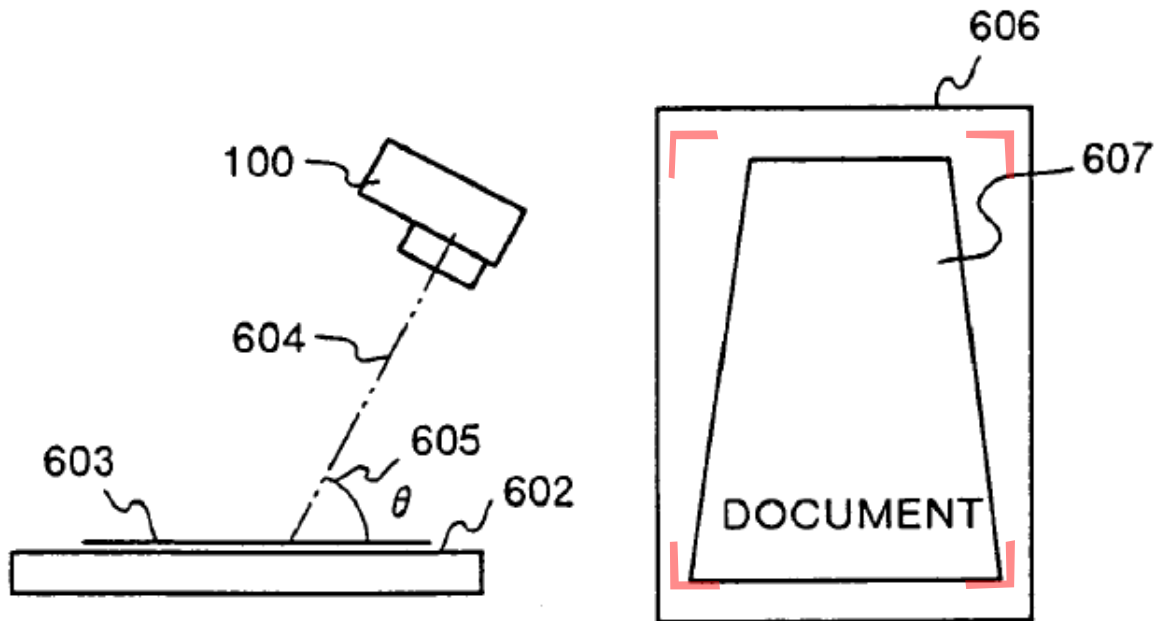
**a. Downloaded app for assisting a customer in view of Watanabe and King**

Garcia discloses a mobile device that incorporates a digital camera to capture check images and transmit them to the bank. Garcia, 4:13-19, 5:8-6:21. Garcia discloses using “a computer application on the mobile telephone” to establish an interactive session with the receiving institution, indicating that application software is used to mediate a customer’s mobile phone and the financial institution. *Id.*, 9:20-10:2. A POSA would have also recognized that software is required to use the camera for capturing a check image for remote deposit purposes. Doermann, 56. It was well-known that “the phone hardware is not modified to support the system,” in which case software (app) is downloaded to “implement some parts of the system.” King, [0306]; Doermann, 56.

A POSA would have been motivated to implement software features to increase the accuracy of information captured in the image of the check, “which is a critical component of any financial processing system particularly with high speed online processing.” Randle, [0057]; Doermann, 57. A POSA would have recognized the importance of capturing a high-quality check image at the outset to obviate the

need for additional quality assurance steps later. Randle [0004]; Doermann, 57. To this end, a POSA would have been motivated to implement features to assist a customer in capturing a clear check to ensure it is in a proper format for the check clearing process. Watanabe, 1:39-61; Doermann, 57. A POSA would have recognized that this could be achieved by guiding the customer to properly orient the check before capturing its image, so the check processing system will recognize and validate critical information (MICR line and check amount) of the check. Doermann, 57.

A POSA would have readily understood that Watanabe discloses such a feature. Doermann, 58. Watanabe discloses a digital camera for capturing a document image. Watanabe, 3:9-19. Watanabe's camera displays a guidance frame and messages assisting a customer with achieving a proper orientation of the document (angle of photography is vertical). *Id.*, 7:55-8:26. These instructions are displayed until the digital camera recognizes that the document is oriented correctly. *Id.* A POSA would have had a reasonable expectation of success in combining Garcia and Watanabe because guiding a handheld mobile device user to take photos satisfying quality assurance criteria was well known. Doermann, 58; Ex. 1012, [0042], [0117]-[0119].



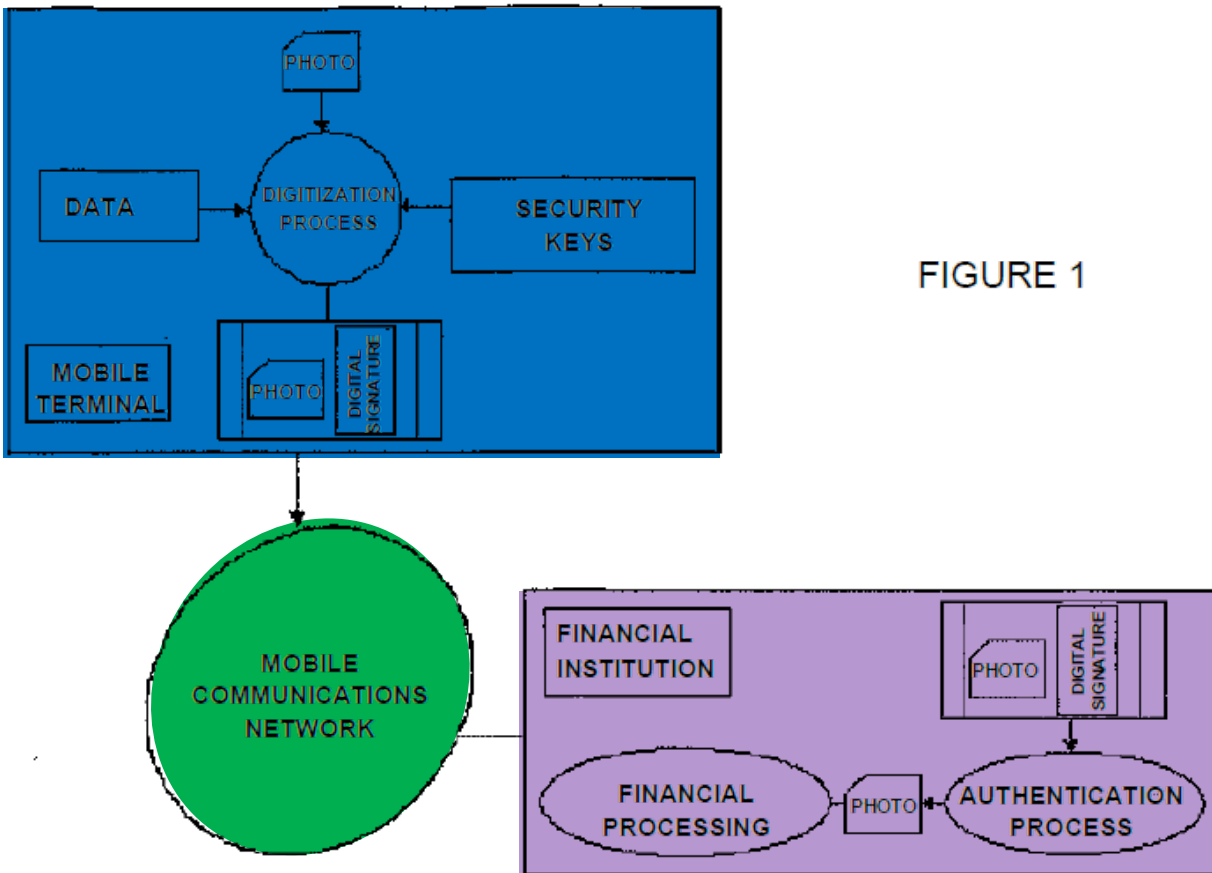
Watanabe, FIG. 5B (annotated as disclosed by Watanabe).

A POSA would have had a reasonable expectation of success in combining these features because prior art recognized that mobile phones with cameras that can be used to capture images of documents “have the ability to download software that could implement some parts of the system.” King, [0306]. A POSA would have recognized that providing guidance for taking a photo is one such feature that could be implemented via downloaded software. Doermann, 59. The combination would have involved combining known prior art elements (a mobile phone, a downloadable application, and feedback regarding the photographing process) according to known methods (known software development methods for mobile phones) to yield predictable results (a downloaded app for mobile check deposit for capturing images

suitable for the check clearing process) and applying a known technique to a known device ready for improvement to yield predictable results. Doermann, 59.

**b. Validating checks in view of Slater**

Garcia discloses “**computer equipment** at the [financial] institution” that validates and deposits a check image received from a “mobile device.” Garcia, 4:11-19, 9:10-22. Garcia, however, does not expressly disclose details about how the computer equipment implements these processes. Doermann, 60. Thus, a POSA would have been motivated to look to other references, such as Slater, for implementation details. Doermann, 60.



Garcia, FIG. 1 (annotated).

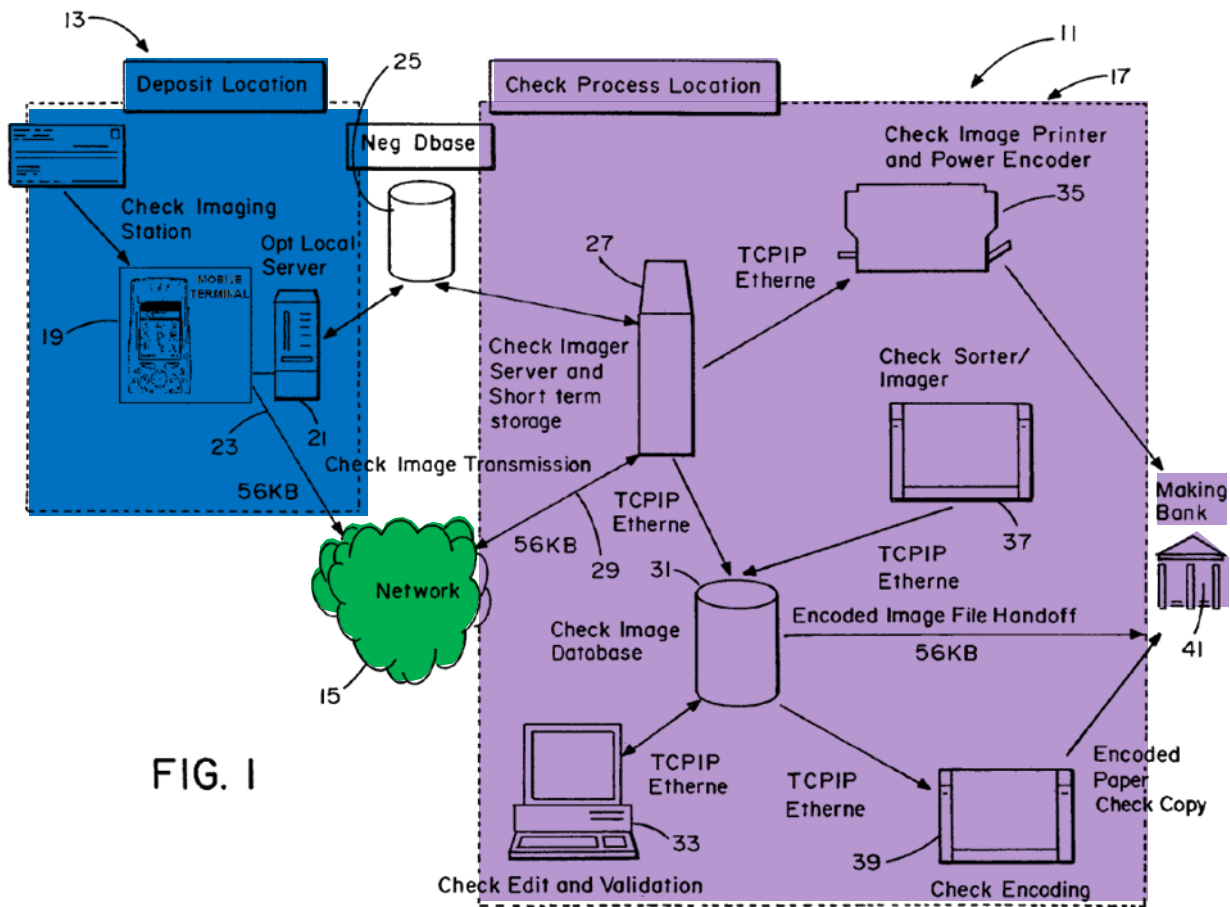
Garcia recognized the need for the bank's receiving system to "recognize, verify, and electronically process" the transmitted data. Garcia, 11:8-10; Doermann, 61. To this end, Garcia's bank computer includes "an optical character recognition (OCR) system." *Id.*, 11:8-18; Doermann, 61.

Garcia discloses capturing data associated with a check, such as the check amount and number. Garcia, 10:15-16; Ex. 1016, 61-62 (finding that "Garcia expressly states that the bank's computer equipment 'has an optical character recognition (OCR) system' for 'recognizing, verifying and processing the

information sent by the user,’ which includes the check image and data entered by the user (check amount)), 43-44. This was a well-known feature at the time. Randle, [0019], [0021], [0042], [0074]; Ex. 1016, 61-62. A POSA would have understood that Garcia uses OCR to determine the check amount. Slater, 4:60-63, Doermann, 61; Ex. 1016, 61-62, 43-44. Garcia discloses that “[t]hrough the keyboard, the user enters the previously mentioned identifying data, such as the check amount ... before sending it.” Garcia, 12:10-13. Garcia does not expressly disclose comparing scanned and customer-input amounts, but a POSA would have understood that Garcia accepts the customer-input amount for this purpose because this was a well-known validation process at the time. Slater, 4:63-66 (“A comparison between the scanned amount and the entered amount is made, and if there is a match, the transaction proceeds.”); Doermann, 61. A POSA would have understood that a key reason to capture both OCR and customer-entered amounts is for validation. Doermann, 61.

A POSA would be motivated to implement this comparison step in Garcia’s **bank’s computer** because, in a valid transaction, the scanned amount and the customer-entered amount should match. Doermann, 62. Because Garcia generally discloses validating and clearing check transactions (Garcia, 4:13-19, 5:1-9), a POSA would have been motivated to implement Slater’s specific comparison step to predictably reduce errors and improve the reliability of the deposit system.

Doermann, 62. A POSA would have understood that performing this validation step early in the process reduces the need for more costly downstream validation, increasing efficiency and decreasing cost associated with a remote check deposit. Doermann, 62. A POSA would have also understood that the comparison step would be performed either on the front end in the customer terminal or on the back end in the bank's computer, and the location does not have any material effect on the check-clearing process. Doermann, 62; *In re Yufa*, 452 F. App'x 998, 1001 (Fed. Cir. 2012) (affirming obviousness where the prior art taught every element of the claims except that the processing step occurred at a different location, holding that "[t]his is nothing more than a reconfiguration of a known system").



Slater FIG. 1 modified by Garcia FIG. 2 (annotated).

This combination would have involved the use of a known technique (comparing check amount input by user and check amount determined by OCR) to improve similar devices in the same way (improve validation technique in a remote check deposit system using a mobile phone). Doermann, 63. It would have also involved combining prior art elements (Garcia's check processing system and Slater's validation technique) according to known methods (comparing check amount input by user and check amount determined by OCR) to yield predictable results of improving the accuracy of check transaction validation (improving

validation reliability). Doermann, 63. And it would have involved a simple substitution known elements (Slater's CAT with Garcia's mobile device with a built-in camera) to yield predictable results (a remote check deposit system using a mobile phone). At a minimum, it would have been obvious to try to combine these features because there was a design need for validating checks, and a POSA would have appreciated that Slater provided a predictable, improved solution for validation. Doermann, 64. A POSA would have had a reasonable expectation of success in making this combination because Slater discloses using a CAT, which has "a scanner or check imager in place of a traditional envelope deposit slot," and a POSA would have recognized that handheld mobile devices equipped with cameras would function as check imagers for remote check deposit. Slater, 4:42-44, 9:51-54; Doermann, 64.

### C. Claim 1

#### 1. [1pre] A system for allowing a customer to deposit a check using a customer's own handheld mobile device,

Garcia discloses or renders obvious [1pre].

Garcia discloses a "system" used for "the validation and deposit of checks into an existing bank account by a user employing a **mobile device** equipped with a built-in camera that is capable of capturing and transmitting digital images." Garcia, 4:13-19, 7:18-8:1. Garcia's **mobile device** is connected to a **bank computer** via a **mobile**

**communications network.** Garcia, FIGS. 1-2. Garcia's mobile device is a user's own handheld device. *Id.*, 9:13-14; Doermann, 66.

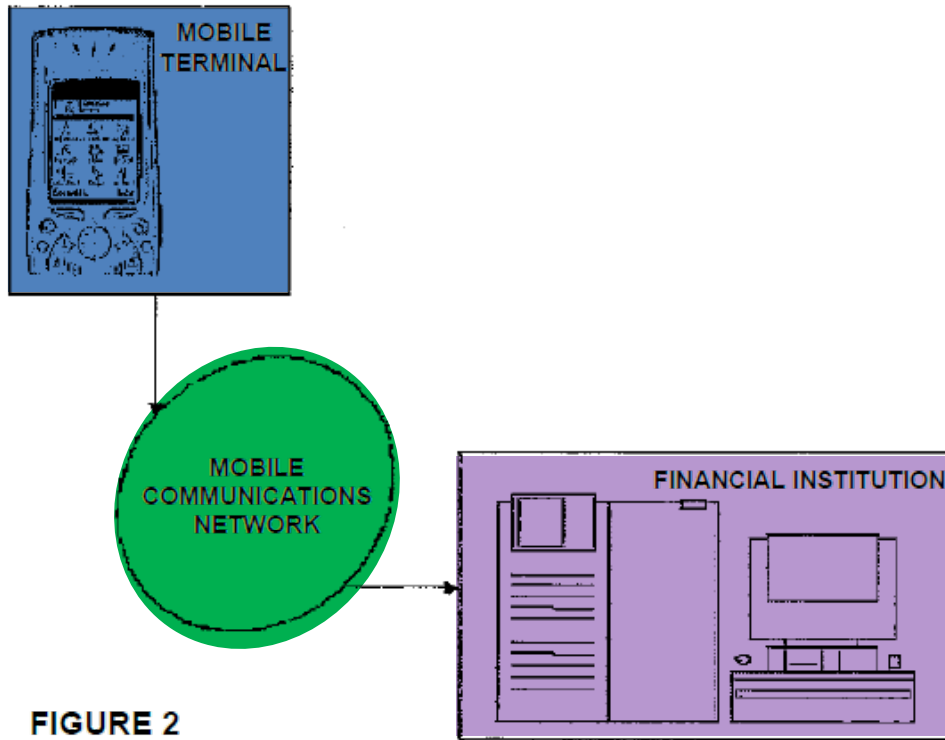


FIGURE 2

Garcia, FIG. 1 (annotated).

**2. [1a] the system including: a customer's handheld mobile device including a downloaded app,**

Garcia alone or in combination with King renders obvious [1a].

As explained for [1pre] (Section VI.C.1), Garcia discloses a customer's mobile device. Doermann, 67-68.

Garcia's handheld mobile device includes a downloaded app because Garcia discloses that the "equipment needed by the user must enable: a) Identifying the user, wherein the user opens a computer application on the mobile telephone in which an

interactive session is established with the receiving institution through the mobile communications operator.” Garcia, 9:18-10:2. A POSA would have understood that Garcia’s “computer application on the mobile telephone” is a downloaded app associated with a bank. Doermann, 69. A POSA would have understood that Garcia’s mobile check deposit requires downloading an app associated with a bank, which was well known at the time. Doermann, 70. In 2005, “[b]anking via mobile phone [was] not new.” Ex. 1013, 1. There were tens—if not hundreds—of millions of mobile phones in operation, and bank customers downloaded software that “offer[ed] customers full-service banking from their mobile phones.” *Id.*; Doermann, 70.

If Patent Owner contends Garcia does not disclose this limitation, King does. King explains that “modern phones have the ability to download software that could implement some parts of the system,” to provide uninterrupted functionality while offline. King, [0306], [0227]; Doermann, 71. A POSA would have understood that remote check deposit using downloaded software was known before 2006, as evidenced by U.S. Patent Pub. No. 2005/0097046 to Singfield. Singfield discloses online check deposit transactions using an Internet-capable mobile device that downloads computer program software. Ex. 1014, claims 1, 6, 21; Doermann, 71.

To the extent this combination is even needed, it would have been obvious to a POSA to implement Garcia’s computer application on the mobile telephone as a

downloaded application, taught by King. The combination would have merely installed King's downloaded software on Garcia's mobile terminals. Garcia, 2:17-23. Downloading Garcia's computer application on the mobile telephone using King's technique would have yielded predictable results of facilitating mobile banking using the Internet. Doermann, 72.

A POSA would have expected success in implementing Garcia's computer application on the mobile telephone as a downloaded application, taught by King. Garcia's hardware would not require any modification because its mobile telephone or mobile terminal is already capable of Internet-communication and storing Internet-based applications. Garcia, 1:12-14 ("a mobile device capable of capturing and sending images through an internet connection."), 3:4-7. Only minimal routine programming would have been needed to download software to Garcia's mobile terminals. To the extent any modification to the programming or software was needed to enable downloading, such modification was well within the skill of a POSA. Doermann, 73.

3. **[1b] the downloaded app associated with a bank and causing the customer's handheld mobile device to: receive input entered by the customer indicating an amount of the check;**

Garcia alone or in combination with King renders obvious [1b].

As explained for [1a] (Section VI.C.2), Garcia alone or in combination with King teaches a downloaded app associated with a bank. Doermann, 74-75.

Garcia discloses receiving an input from the customer indicating the amount because it discloses, “[t]hrough the keyboard, the user enters the previously mentioned identifying data, such as **the check amount**, and all the data and keys necessary for the operation of the system, before sending it.” *Id.*, 12:10-13; *id.* 3:17-20, 5:15-21, 14:13-20. A POSA would have understood that Garcia’s computer application prompts a user to enter the check amount, and therefore, Garcia’s mobile device receives the customer-entered check amount. Doermann, 76.

**4. [1c] use a display of the customer’s handheld mobile device to assist the customer in having a digital camera take a photo of the check;**

Garcia in combination with King (**Ground 1a**) or Garcia in combination with King and Watanabe (**Ground 1b**) renders obvious [1c]. Doermann, 77.

For **Ground 1a**, Garcia discloses using “a mobile device equipped with a built-in camera ... capturing and transmitting digital images, in addition to performing standard telephone operations.” Garcia, 4:13-19; *id.*, 11:1-6. Garcia’s handheld mobile device also includes a display. *Id.*, FIG. 2, 6:9, 8:7-10, 15:8; Doermann, 78.

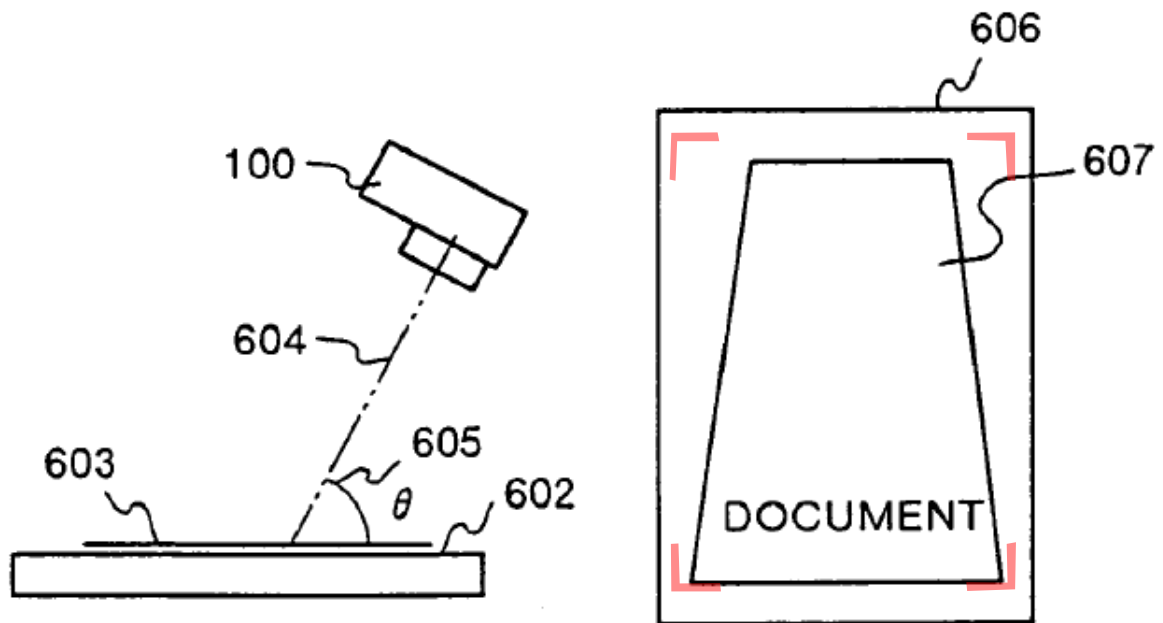
King expressly discloses using a display of a customer’s handheld device to assist the customer to take a photo of a document. King states, “the camera built into

many mobile phones is used to capture an image of the text.” King, [307]. And King states that the display is used to assist the customer, stating, “[t]he phone display, which would normally act as a viewfinder for the camera, may overlay on the live camera image information about the quality of the image and its suitability for OCR, which segments of text are being captured, and even a transcription of the text if the OCR can be performed on the phone.” *Id.* Because King uses the mobile device’s display as a viewfinder and to convey additional information, a POSA would have understood King discloses using the mobile device display to assist a customer with taking a photo of a document using the built-in digital camera. Doermann, 79-80.

A POSA would have been motivated to modify Garcia’s display to add King’s overlay feature displaying image information to assist the customer in taking a check photo suitable for OCR and further processing. Doermann, 81. Garcia discloses capturing a check image for OCR, and thus, a POSA would have found it advantageous to add King’s feature to increase the quality of the check image for more accurate OCR. *Id.* A POSA would have found the combination obvious because it involves combining prior art elements (capturing an image using a mobile phone and displaying an overlay image on the live camera image information for the camera on a display of the mobile phone) according to known methods (like a digital camera displaying image information on its screen) to yield predictable results (assist the customer to capture a check image suitable for processing). *Id.* A POSA

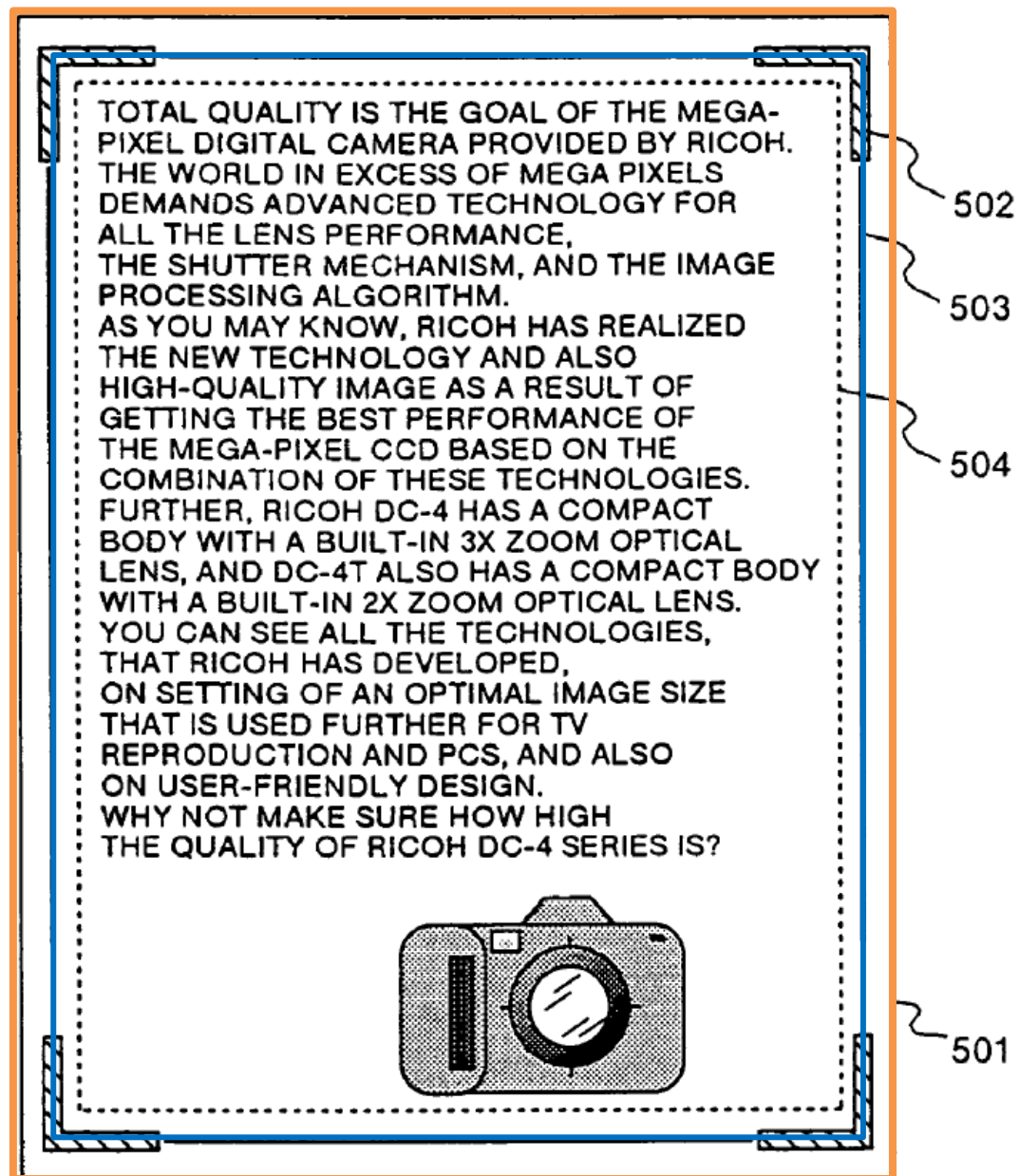
would have had a reasonable expectation of success in combining these features because Garcia and King both disclose capturing images of documents for OCR using mobile phones. *Id.*

**For Ground 1b**, to the extent Patent Owner argues this limitation requires specific instructions or feedback on the display to “assist the customer,” Garcia-King-Watanabe renders it obvious. Doermann, 82. Watanabe discloses a digital camera including a display that “generates a guidance graphic on the display control section 104 according to the operation, and then guides the user to perform the next operation.” Watanabe, 5:32-35. Watanabe discloses displaying a guidance frame on whether the angle of photography is vertical. *Id.*, 7:20-26, 12:12-22, FIGS. 5A-5B; Doermann, 82. When the displayed image of the document contains distortion, as shown in Figure 5B, a user tilts the camera while visually inspecting whether the shape of the document is rectangular like the guidance frame (red), because the displayed image “changes seamlessly in association with inclinations of the digital camera.” Watanabe, 7:64-67; Doermann, 82.



Watanabe, FIG. 5B (annotated as disclosed by Watanabe).

A POSA would have understood that as combined, the downloaded app in Garcia's mobile phone causes display of Watanabe's guidance frame to assist the customer in using the digital camera to capture a check photo. Doermann, 83. Garcia's app would monitor the displayed image and determine whether it comports with image quality control criteria, such as the shape of the document. Watanabe, 12:1-31; Doermann, 83. If the app determines that the image does not meet the quality control criteria, it will cause Garcia's mobile device to display additional guidance to assist the customer. Watanabe, 12:1-31; Doermann, 83.



Watanabe, FIG. 4 (annotated).

As explained in Section VI.B, a POSA would have been motivated to modify Garcia's mobile phone's digital camera with Watanabe's guidance frame to provide

assistance to a customer taking a photo of the check to ensure that the photo is suitable for accurate OCR. Doermann, 84.

**5. [1d] assist the customer as to an orientation for taking the photo; and**

Garcia in combination with King (**Ground 1a**) or Garcia in combination with King and Watanabe (**Ground 1b**) renders obvious [1d]. Doermann, 85.

For **Ground 1a**, as explained for [1c] (Section VI.C.4), Garcia in combination with King teaches using a display on a mobile phone built-in digital camera to assist a customer in taking a check photo. King discloses, “[t]he phone display, which would normally act as a viewfinder for the camera, may overlay on the live camera image information about the quality of the image and its suitability for OCR, which segments of text are being captured, and even a transcription of the text if the OCR can be performed on the phone.” King, [0307]. A POSA would have understood this disclosure at least suggests assisting the customer as to an orientation for taking the photo for two compounding reasons. Doermann, 86.

First, King’s displaying the live camera image on the mobile device display acting as a viewfinder (King, [307]) at least suggests assisting with orientation because the very purpose of a view finder and live display of the camera image is to allow the customer to properly frame and orient the photograph. Doermann, 87. A customer using King would have understood, using the viewfinder and live display,

whether the check and digital camera were properly aligned at the correct orientation, so the entire check is shown clearly. *Id.*

Second, King’s overlaying “information about the quality of the image and its suitability for OCR, which segments of text are being captured, and even a transcription of the text if the OCR can be performed on the phone” (King, [307]) at least suggests assisting with orientation because improper orientation of the document would have prohibited accurate OCR. Ex. 1015, 1:13-32 (“A major problem in optical character recognition is determining the proper orientation of the symbols.”). Instructing the customer on whether the image is suitable for OCR and whether all text can be seen in the document image at least suggests assisting with orientation of the document because a customer would adjust the orientation of the document accordingly. Doermann, 88.

**For Ground 1b**, to the extent Patent Owner argues this limitation requires specific instructions or feedback to “assist the customer as to an orientation,” Garcia-King-Watanabe renders it obvious. Doermann, 89. Watanabe discloses assisting the customer as to an orientation for taking the photo. *Id.*

Watanabe discloses that “photography is started only when the angle of photography is substantially vertical to the surface of the subject,” so that “a proper image of the document can be obtained.” Watanabe, 2:55-61. When Watanabe’s camera detects that the angle of photography is not vertical, its width or length is not

parallel to the document (a trapezoidal shape shown in Figure 5B), the camera repeats the processes of displaying the guidance frame and detecting the angle of photography until the customer orients the document vertically. *Id.*, 8:9-16; Doermann, 90.

As explained in Section VI.B, a POSA would have been motivated to implement Watanabe's feedback on the orientation of the check image in Garcia-King's mobile phone with a downloaded app to ensure the check is correctly oriented for accurate OCR. Doermann, 91.

**6. [1e] using a wireless network, transmit a copy of the photo over the Internet from the customers handheld mobile device to the bank;**

Garcia in combination with King renders obvious [1e]. Doermann, 92.

Garcia discloses using a wireless network because its "mobile device [is] capable of capturing and sending images through an internet connection." Garcia, 1:8-14; *id.*, 11:10-15. Garcia also discloses that each user and the financial institution are connected through "a mobile telecommunications network, for example a GSM/GPRS network or any future technological capabilities that are adapted to the present and future demands of the method of reference." *Id.*, 11:20-12:3. Garcia discloses "a method of document processing and acceptance, such as, for example, **bank checks**, that guarantees the authentication of the issuer and of the document itself and takes places electronically by means of a mobile device capable of

capturing and sending images through an internet connection.” *Id.*, 1:8-14 (emphasis added). As part of this method, Garcia discloses “[t]ransmitting the digital image and the recognition data, once encrypted, to the institution that needs to accept the document.” *Id.*, 10:21-23. A POSA would have understood that the receiving institution is a bank because Garcia discloses methods of electronic banking and the images transmitted are “bank checks.” *Id.*, 1:18-2:15; Doermann, 93.

**7. [1f] a bank computer programmed to: check for errors in the check in the photo by:**

Garcia discloses [1f]. Doermann, 94.

Garcia discloses a bank computer because it discloses that receiving banks have “computer equipment connected to the internet that is equipped with an optical character recognition (OCR) system, a key authentication system, and a means for transmitting the data to the institution’s document processing system.” Garcia, 11:10-18; Doermann, 95.

Garcia discloses that the bank computer checks for errors in the check in the photo because it discloses that the bank’s computer is capable of “[r]ecognizing, verifying, and electronically processing the data received by said institution.” Garcia, 6:11-12. A POSA would have understood that Garcia’s verification system checks for errors in the check in the photo. Doermann, 96. Such verification

processes were well known in the art, including checking for the presence of a signature and endorsement on the check. *Id.*; Randle, [0074].

To the extent Patent Owner argues that Garcia does not disclose this limitation, Slater does. Slater discloses comparing a check amount determined through OCR (Courtesy A[mount] Recognition (CAR) and Legal Amount Recognition (LAR)) software with a customer-entered amount “for improved confidence.” Slater, 4:60-63. If the two amounts do not match, due to an error in the OCR amount, “the system will send the check image to a customer service operator who will be able to read the check and resolve any discrepancies.” *Id.*, 4:66-5:3. Indeed, the Board found in a related IPR proceeding for a related USAA patent IPR2021-01077 (“1077 IPR”) that “this comparison would improve reliability because ‘[a]ny discrepancy would mean there was error either in the user input or the image from which the check amount is read[.]’” Ex. 1016, 62; Doermann, 97.

**8. [1g] performing optical character recognition on the check in the photo to determine an amount shown on the check, and**

Garcia alone or in combination with Slater renders obvious [1g]. Doermann, 98.

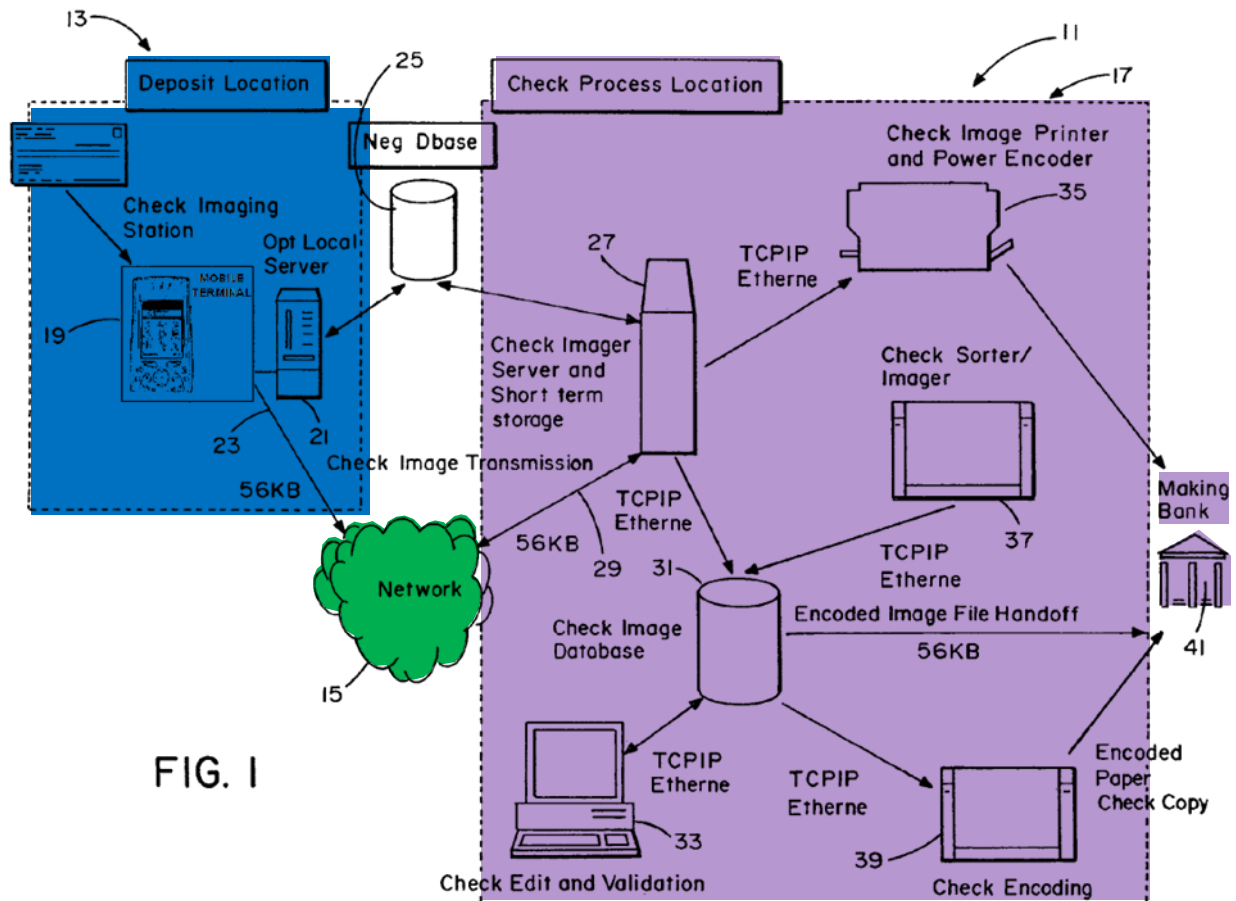
Garcia discloses that the receiving banks have “computer equipment connected to the internet that is equipped with an optical character recognition (OCR) system, a key authentication system, and a means for transmitting the data to

the institution's document processing system.” Garcia, 11:10-18. Garcia discloses “[c]apturing data associated with the document, such as, for example, the check amount and number.” Garcia, 10:15-16. A POSA would have understood that capturing the check amount refers to optical character recognition of the check amount. Doermann, 99. In fact, in the 1077 IPR, the Board expressly found that “Garcia suggests performing an OCR on the check image as part of” a remote check deposit process, and that “this OCR is necessary for deposit.” Ex. 1016, 61-62, 43-44.

Patent Owner is prohibited from arguing otherwise under 37 C.F.R. § 42.73(d)(3)(i). To the extent Patent Owner disputes this limitation, however, Slater discloses it. Slater's customer access terminal (CAT) “can be programmed to validate check items through MICR code line and OCR software.” Slater, 4:56-57. Slater discloses that “[t]he CAT can then determine the check amount through a combination of Courtesy A[mount] Recognition (CAR) software and Legal Amount Recognition (LAR) software, for improved confidence.” *Id.*, 4:59-63; Doermann, 100.

A POSA would have found it obvious to combine Garcia and Slater because they disclose the same system architecture with a customer terminal and a bank computer connected via network. Doermann, 101. A POSA would have understood that Slater discloses the implementation details of Garcia's bank computer, and that

the CAT in Slater would be substituted with Garcia's mobile phone equipped with a digital camera, as shown in the following figure. *Id.*



Slater FIG. 1 modified by Garcia FIG. 2.

9. [1h] comparing the amount shown to the amount entered by the customer; and

Garcia in combination with Slater renders obvious [1h]. Doermann, 102.

As explained for [1g] (Section VI.C.8), Garcia alone or combined with Slater discloses performing OCR to determine the check amount. Garcia also discloses that

“[t]hrough the keyboard, the user enters the previously mentioned identifying data, such as the check amount, and all the data and keys necessary for the operation of the system, before sending it.” Garcia, 12:10-13, 5:15-21, 14:13-20. And Garcia discloses “capturing” the check amount, suggesting that this is captured through OCR. *Id.*, 10:15-16, 11:8-15. A POSA would have understood that the check amount is obtained by both a customer’s entry and OCR, so these two obtained values can be compared for validation. Doermann, 103. This was a well-known validation feature, as disclosed by Slater.

Slater discloses that “[t]he customer can then, using an appropriate keyboard, input the check amount.” Slater, 4:59-60. Slater also discloses, “[a] comparison between the scanned amount and the entered amount is made, and if there is a match, the transaction proceeds.” *Id.*, 4:63-66. “If the customer’s input and the courtesy amount recognition differ, even after a customer’s second input, the system will send the check image to a customer service operator who will be able to read the check and resolve any discrepancies.” *Id.*, 4:66-5:3. Indeed, in the 1077 IPR, the Board found that “there would be no reason to capture both OCR and customer-entered versions unless there was a possibility of such discrepancy,” and thus, a POSA would have understood that the two amounts are collected for comparison to improve reliability. Ex. 1016, 62; Doermann, 104.

**10. [1i] the system being configured to update a balance of an account after determining that no errors were found in the check in the photo.**

Garcia in combination with Slater renders obvious [1i]. Doermann, 105.

Garcia discloses, “[t]he institution that receives the message proceeds to validate and encrypt [sic] it to obtain a digital photograph of the check and a series of data that enable it to automatically process the deposit of said check into the account of the service user.” Garcia, 12:16-21. Garcia discloses “validating and depositing [the check amount] into a checking account of a banking institution, directly by a user from his mobile telephone, through his mobile communications operator.” *Id.*, 16:15-19. A POSA would have understood that the deposit of funds occurs after the check in the photo has been validated and confirmed free of errors. Doermann, 106. A POSA would have understood that automatic processing refers to updating a balance of an account given that Garcia relates to electronic banking using mobile phones and specifically discloses methods of electronically depositing bank checks. *Id.* In the 1077 IPR, the Board found that “Garcia discloses that the bank’s computer equipment determines, in at least some circumstances, that the received digital image is sufficient to go forward with the deposit.” Ex. 1016, 66.

If Patent Owner argues that Garcia does not disclose this limitation, Slater does. Slater discloses that “[i]f the amount determined by the access device and the amount entered by the customer are the same, the access device accepts the deposit.”

Slater, 6:1-4. Slater discloses, “the depository bank can send the electronic information directly to the payor bank or to another bank or service provider acting as the depository bank’s representative to create the MICR” to minimize “float” associated with “the availability of the funds to the depository bank from the deposited check.” *Id.*, 6:35-58. Once the check has been successfully verified and validated, including determining that the check is free of any errors, a POSA would have understood that the next logical step is to settle funds between the payee and payor banks. Doermann, 107; Randle, [0019] (“In either instance at the time of clearing and settlement, bank to bank funds balances between and among participating banks are settled for the items cleared ... Payee bank 21, receiving funds, will assign the funds represented by the financial instrument and credit the funds to the respective individual payee 3.”).

**D. Claim 5: The system of claim 1, wherein use of the display of the customer’s handheld mobile device to assist the customer includes instructing the customer to have the digital camera take a photo of a front side of the check and a photo of a back side of the check.**

Garcia in combination with King (**Ground 1a**) or Garcia in combination with King and Watanabe (**Ground 1b**) renders obvious claim 5. Doermann, 108.

For **Ground 1a**, as explained for [1c] (Section VI.C.4), Garcia discloses a handheld mobile device with a display, and King discloses overlaying information on the display about the quality of the image and its suitability for OCR. Garcia

discloses “[c]apturing a digital image of the front and the back sides of the document.” Garcia, 10:12-13. A POSA would have found it obvious to use the overlay information to display instructions to assist the customer to have the digital camera take front and back images to capture all check information for verification and validation. Doermann, 109.

For **Ground 1b**, as explained for [1b]-[1c] (Sections VI.C.3-VI.C.4), Watanabe discloses using the display of the customer’s handheld mobile device to assist the customer. Given that Garcia discloses capturing a digital image of the front and back sides of a check (Garcia, 10:12-13), a POSA would have found it obvious to modify Garcia-Watanabe to instruct the customer to have the digital camera take a photo of a front side of the check and a photo of a back side of the check. Doermann, 110. To capture the information needed to process checks, a POSA would have found it obvious to modify Watanabe’s instructions to specify taking photos of the front and back sides of the check. *Id.*; Randle, [0019].

**E. Claim 7: The system of claim 1, wherein the customer’s handheld mobile device further includes camera software that controls a customer’s digital camera, the camera software being separate from the downloaded app, the downloaded app at least partially controlling the camera software.**

Garcia in combination with King (**Ground 1a**) or Garcia in combination with King and Watanabe (**Ground 1b**) renders obvious claim 7.

Garcia’s mobile device is “equipped with a built-in camera that is capable of capturing and transmitting digital images, in addition to performing standard telephone operations.” Garcia, 4:16-19. King discloses that “[m]any modern phones have the ability to download software that could implement some parts of the system.” King, [0306]. King teaches that “the camera built into many mobile phones is used to capture an image of the text.” A POSA would have understood Garcia’s mobile phone to include separate software for its digital camera for performing its normal camera operations. Doermann, 112. Also, as explained for [1b] in Section VI.C.3, Garcia in combination with King teaches downloading a separate app associated with a bank. *Id.* Because the downloaded app uses Garcia’s camera to capture and transmit a bank check, a POSA would have understood that the bank app at least partially controls the camera software. Sections VI.C.2-VI.C.6; Doermann, 111-112.

**F. Claim 8: The system of claim 1, wherein the downloaded app manages taking the photo.**

Garcia in combination with King (**Ground 1a**) or Garcia in combination with King and Watanabe (**Ground 1b**) renders obvious claim 8. Doermann, 113.

As explained for [1c]-[1d] (Sections VI.C.4-VI.C.5), Garcia discloses using a built-in camera in a mobile phone to capture a check image, and a POSA would have been motivated to use downloadable software, King’s downloaded app, associated

with the camera to do so. Doermann, 114. The downloaded app in Garcia-King manages the mobile phone and the customer in capturing images of a check that are suitable for the remote check deposit process. Doermann, 113-114. A POSA would have found it obvious to modify the downloaded app to manage taking the photo. Sections VI.C.4-VI.C.5.

**G. Claim 9: The system of claim 1, wherein the downloaded app instructs the customer to place the check in front of the digital camera before taking the photo.**

Garcia in combination with King (**Ground 1a**) or Garcia in combination with King and Watanabe (**Ground 1b**) renders obvious claim 9. Doermann, 115.

**For Ground 1a**, as explained for [1c] (Section VI.C.4), Garcia combined with King teaches camera software assisting the customer to take a photo of the check. Garcia discloses “[c]apturing a digital image of the front and the back sides of the document.” Garcia, 10:12-13. King discloses assisting the customer by displaying a live camera image on the display used as a viewfinder and “overlay[ing] on the live camera image information about the quality of the image and its suitability for OCR, which segments of text are being captured, and even a transcription of the text if the OCR can be performed on the phone.” King, [307]. A POSA would have understood that using the display of the mobile device as a viewfinder to display the live camera image to a user (disclosed by King) during a check image-capture process (taught by Garcia) is an instruction to a user to place the check in front of the digital camera

before taking the picture because a live viewfinder display coupled with instruction to capture front and back images intuitively guides a customer to placing the check within the displayed viewfinder frame to achieve the instructed purpose. Doermann, 116.

**For Ground 1b**, as explained for [1c] (Section VI.C.4), Watanabe discloses camera software assisting the customer to take a photo of the check. Garcia discloses “[c]apturing a digital image of the front and the back sides of the document.” Garcia, 10:12-13. Watanabe discloses displaying instructions to a customer through the guidance frame explained in Sections VI.C.4-VI.C.5, which instructs the customer to properly place the check (vertical angle of photography) in front of the camera. Watanabe, 12:17-21; Doermann, 117.

**VII. GROUNDS 2a AND 2b: CLAIMS 2-4, 6, 10-14, 16-17, AND 19-20 ARE UNPATENTABLE OVER GARCIA, KING, [WATANABE (2b)], SLATER, AND RANDLE**

**A. Overview of the Combination**

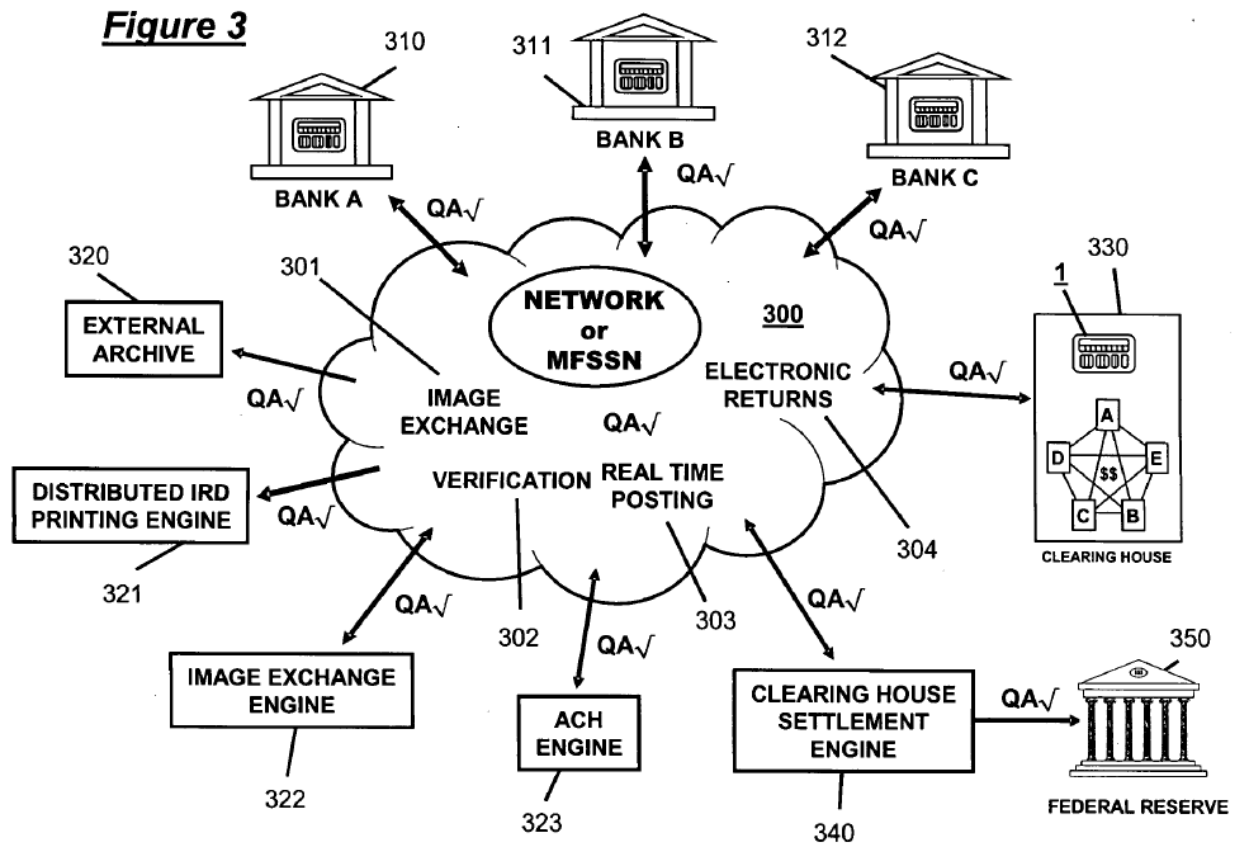
**1. Randle**

Randle discloses a system for electronic end-to-end check processing that can “capture, validate and clear transactions rapidly and inexpensively.” Randle, [0002], [0006]-[0007]; *id.*, [0004], [0018], [0042]; Doermann, 118.



If found sufficient, the payee bank submits the quality-assured (“QA’d”) check information to the clearing house 20, which clears and settles the check transaction.

*Id.*; Doermann, 119.



Randle, FIG. 3.

As part of its validation process, Randle discloses capturing both sides of a check and verifying various information in the check, including “valid account, account standing, valid bank, valid or not a duplicate check number, availability of funds, correct signature, valid positive pay item, and the absence of restrictions such as stop payment orders.” Randle, [0019], [0036]. Randle also discloses verifying

whether the check has a correct signature and endorsement on the check. *Id.*, [0047]. Once verified, Randle's captured image is converted into a reduced file format, e.g., bi-tonal (black and white) and transmitted to the clearing house, which settles funds between the banks. *Id.*, [0019], [0043], FIG. 1A. The image is transmitted along with "a transaction data file," including "[t]he validation activities and results," to settlement and clearing. *Id.*, [0019]-[0021]. Doermann, 120.

**B. Rationale for Combining Garcia, King, [Watanabe (2b)], Slater, and Randle**

A POSA would have been motivated to combine Garcia, King, [Watanabe (2b)], Slater, and Randle. Doermann, 121.

**1. The References are Analogous and Share a Common Architecture**

Like other asserted references (Section VI.B), Randle is analogous art to the '944 patent because it is in the same field of endeavor: remote capturing of documents for transmission over the network. Doermann, 122. Randle discloses capturing a check image, transmitting the check image to a bank, which collects the information needed for deposit, checks the data and image information for quality, and processes the data and image "for settlement, payment and clearing." Randle, [0018]-[0019]. Like the '944 patent, Randle discloses a remote capture device at the point of presentment ("an image-enabled point of purchase device") and computer equipment at a bank, connected via a network. *Id.*, [0006]-[0008].

## **2. Combining Garcia, King, [Watanabe (2b)], Slater, and Randle**

A POSA would have been motivated to combine Garcia, King, [Watanabe (2b)], Slater, and Randle to implement various validation and quality control processes associated with check clearing. Doermann, 123. Garcia relates to “validation and deposit of checks into an existing bank account.” Garcia, 4:13-19; Doermann, 123. Similarly, Slater discloses validating and verifying the check image. Slater, 4:38-5:3. A POSA would have understood that validation is an important part of the check-clearing process, and would have been motivated to look to Randle for validation and verification implementation details. Doermann, 123. Given the similarities of system features and design incentives to improve the accuracy of remote check deposit systems, a POSA would have had a reasonable expectation of success in implementing Randle’s check validation and verification to further enhance the accuracy and reliability of the Garcia-King-Slater-Watanabe system. Doermann, 123.

A POSA would have been motivated to implement Randle’s duplicate detection in the Garcia-King,-[Watanabe (2b)]-Slater system because it was a ubiquitous feature in remote check deposit systems to ensure a check is cashed only once. Doermann, 124; Ex. 1017, 13:41-14:3; Ex. 1018, [0042]. A POSA would have been motivated to implement Randle’s verification of a signature in an endorsement

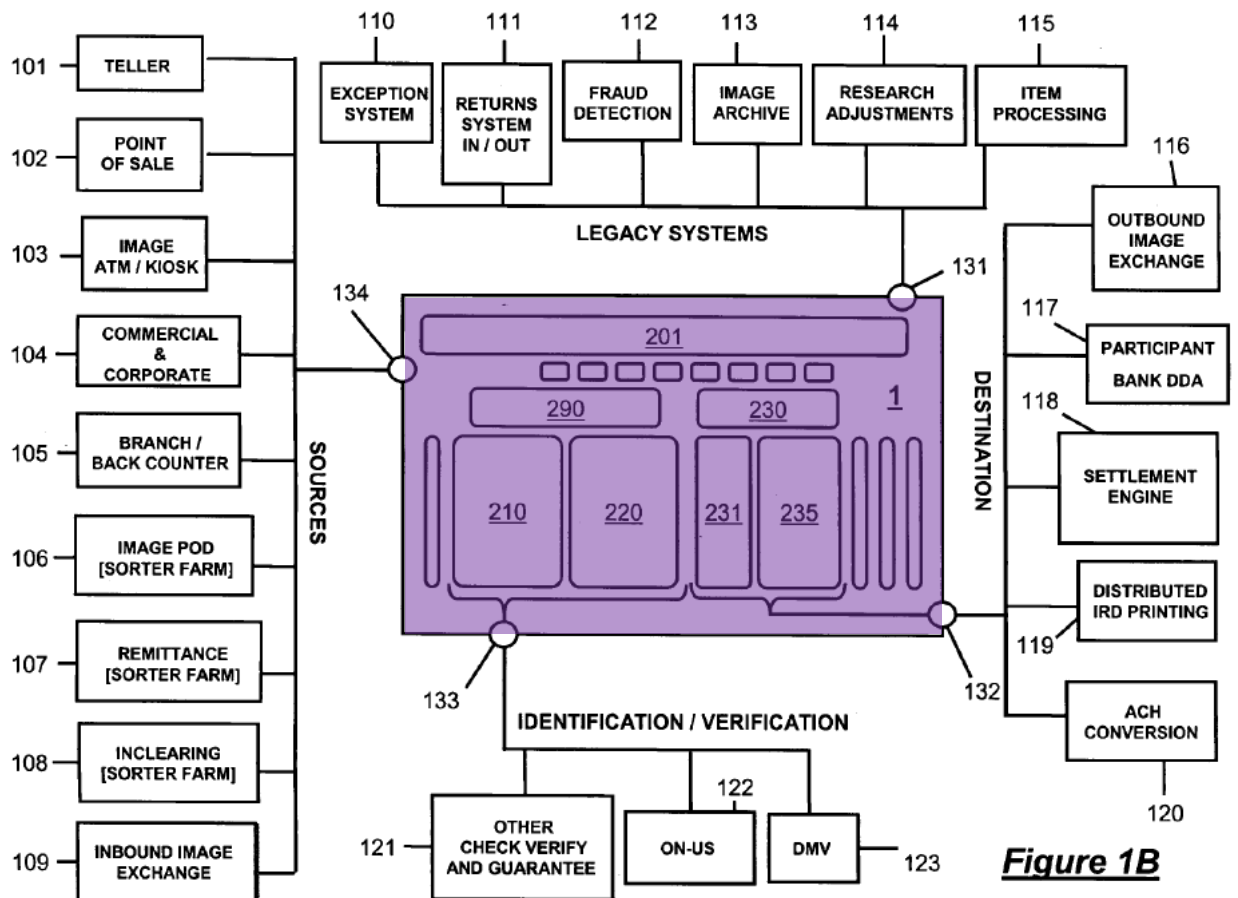
location of a check to verify that the authorized person endorsed the check. Doermann, 124. This was a well-known identity verification feature even before the era of remote check deposit. *Id.*; Ex. 1017, Abstract. Also, a POSA would have found it obvious to implement the “data files” disclosed in Randle in the Garcia-King-[Watanabe (2b)]-Slater system, so information related to validation and verification of the check is transmitted along with the check image to the recipient bank to further enhance the security and accuracy of the remote deposit system. Doermann, 124. A POSA would have had a reasonable expectation of success because the combination involves well-known validation and verification elements combined according to known remote check deposit methods to yield predictable results of achieving a more accurate check-clearing process. *Id.*

**C. Claim 2: The system of claim 1, wherein the bank computer is configured to confirm that mobile deposit of the check can proceed after duplicate detection is performed on the check in the photo.**

Garcia in combination with Randle renders obvious claim 2. Garcia discloses a bank computer configured to validate mobile deposit checks, and Randle discloses duplicate detection.

Randle’s **engine** (item 1 in Figure 1B) comprises multiple components that mediate transmission, verification, and validation of a check image between a capture device and a bank. Randle, [0020], [0022]. The engine includes “an audit

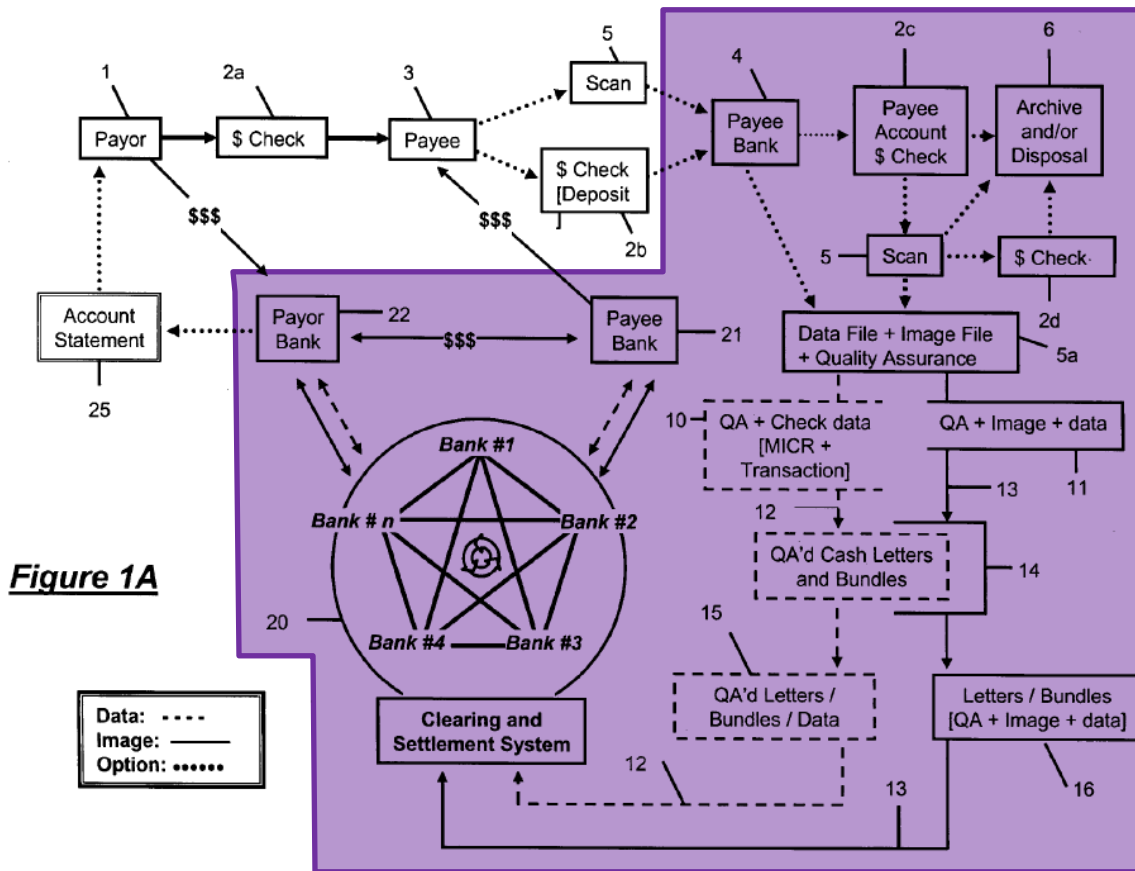
trail/real time monitoring and management information module 201,” “[q]uality assurance and transitive quality assurance module 290,” which includes “presenter identification controller 210 and check verification controller 220,” and “[i]mage synchronization module 230,” which includes “231 transit item controller,” and “235 transaction completion controller.” *Id.*, [0054]; Doermann, 125-126.



Randle, FIG. 1 (annotated).

The engine includes a “[c]heck verification controller 220.” Randle, [0004], [0054]. The check verification controller “is a functional controller that is used to initiate, control, and monitor the various sub-functions associated with verification

of the check being presented.” *Id.*, [0061]. One such sub-function includes a “221 fraud detection suite” for detecting “duplicate transactions.” *Id.*, [0054], [0061]. This quality assurance process confirms that the mobile deposit of the check disclosed in Garcia (Section VI.A.1) can proceed. *Id.*, [0004]; Doermann, 127. Randle discloses that the quality assurance (QA) processes and the check imaging processes (items 5a, 10-16) is performed by an **engine** that resides in the **payee bank’s computer (items 4, 21)**. Randle, [0020]. A POSA would be motivated to implement Randle’s duplicate detection on banks’ computers for check clearing to minimize any errors or fraud associated with depositing the same check multiple times. Doermann, 127.



Randle, FIG. 1A (annotated).

**D. Claim 3: The system of claim 2, wherein the system is configured to initiate the mobile deposit of the check after bank computer confirms that the mobile deposit can proceed.**

Garcia in combination with Randle renders obvious claim 3.

Randle is directed “to the ultimate settlement and clearing of a check and the transfer of funds associated with the check transaction in a bank to bank or clearinghouse settlement.” Randle, [0002]. As part of the clearing process, Randle’s engine submits the check image to the clearing house 20, which clears and settles the check transaction between the payee bank (Bank A) and the payor bank (Bank

B) *Id.*, [0019]. “[A]t the time of clearing and settlement, bank to bank funds balances between and among participating banks are settled for the items cleared.” *Id.* Through this process, the payor bank (Bank B) sends the funds to the payee bank (Bank A). Bank A’s computer, including the engine, “initiate[s] a deposit of funds from a first financial institution to a second financial institution using the digital image in place of the check depicted in the digital image.” *Id.*, FIG. 1A; Doermann, 128-129.

**E. Claim 4: The system of claim 1, wherein the system is configured to perform the update the balance after it is determined that a mark or signature is present in an endorsement location in the photo of a back side of the check.**

Garcia in combination with Randle renders obvious claim 4.

As part of its quality assurance process, Randle discloses “signature check (Is it there?), 123 signature validation (Compare to that on file.), 124 endorsement (Is it there?)” Randle, [0047]. A POSA would have found it obvious to look for an endorsement location in the photo of a back side of the check given the well-known configuration of bank checks. Doermann, 130-131.

**F. Claim 6: The system of claim 1, wherein the system is configured to convert the photo into a bi-tonal Tag Image File Format (TIFF).**

Garcia in combination with Randle renders obvious claim 6. Doermann, 132.

Randle discloses converting a check image “to a less size intensive format for transmission and use in the check processing chain,” like to “bi-tonal (black and white).” Randle, [0043]. A POSA would have understood that bi-tonal (black and white) image format includes TIFF format because the Federal Reserve banks adopted DTSU X9.37-2003 Format (a bi-tonal TIFF format) for Check 21 services. Ex. 1019; Doermann, 133. A POSA would have been motivated to use Randle’s data reduction to comply with the Check 21 regulation and “increase[] transmission speed and reduce[] storage requirements.” Randle, [0043]; Doermann, 133.

**G. Claim 10: The system of claim 1, wherein the system is configured to generate a log file for the mobile deposit of the check, wherein the log file includes an image of the check submitted for mobile deposit of the check.**

Garcia combined with Randle renders obvious claim 10.

Randle’s system converts a check “into an electronic image and a transaction data file in which image and data file transmission is optimized.” Randle, Abstract. The “transaction data file and coordinated image and data file and QA checkmark 5a, comprising the QA’d data file 10 and the QA’d image plus data file 11 are separately manipulated and processed for settlement, payment and clearing in the paths.” *Id.*, [0019]; Doermann, 134-135.

**H. Claim 11: The system of claim 1, wherein the copy of the photo is a modified version of the photo taken with the digital camera.**

Garcia combined with Randle renders obvious claim 11.

Randle’s captured check image “is converted to a less size intensive format for transmission and use in the check processing chain.” Randle, [0043]. The captured image is “in an 8 bit gray scale (or color) high dpi format (100 dpi or 200 dpi) ... to assure a high level of quality for a QA process,” which can be modified to “bi-tonal (black and white)” and “equivalent or similar reductions in tone, color, contrast, resolution or other parameters.” *Id.*; Doermann, 136-137.

**I. Claim 12: The system of claim 11, wherein the copy of the photo has a different format than the photo taken with the digital camera.**

Garcia combined with Randle renders obvious claim 12. As explained for claims 6 and 11 (Sections VII.F, VII.H), the copy of the photo has a different format (TIFF) than the photo taken with Garcia’s digital camera. It was well known that JPEG was the preferred file format for photos taken with a mobile device. Ex. 1020, [0040]-[0041]; Doermann, 138.

**J. Claim 13: The system of claim 1, further comprising a third-party vendor computer.**

Garcia combined with Randle renders obvious claim 13. Randle discloses “pass[ing] the data and image and the associated digital signature to the central server.” Randle, [0022]; *id.*, [0024], [0025]. A POSA would have understood that the central server is a third-party vendor computer. Doermann, 139. Indeed, the ’944 patent discloses that “[f]inancial institution 130 may maintain and operate server 131

for the purposes of communicating with customers such as 110,” and “such server may be maintained and operated by one or more third party vendors who act under the instructions of the financial institution 130, but possess skills and resources that may be more effective in competent operation of electronics.” Ex. 1001, 7:18-25. It states that “[s]uch arrangements are well known in the industry and in this case the server 131 is nonetheless considered to be ‘associated’ with the financial institution 130.” *Id.* at 7:25-28; Doermann, 139.

**K. Claim 14**

1. **[14pre] A system for allowing a customer to deposit a check using a customer’s own handheld mobile device with a digital camera, the system configured to authenticate the customer using data representing a customer fingerprint,**

Garcia combined with Randle renders obvious [14pre]. As explained for [1pre], Garcia allows a customer to deposit a check using the customer’s own handheld mobile device. Section VI.C.1. Garcia discloses user verification by “[i]dentifying the device and its relationship to the user, and verifying the associated telephone number and its identification number (IMEI).” Garcia, 10:8-10. Although Garcia does not expressly disclose fingerprint verification, it would have been obvious in view of Randle. Doermann, 140.

Randle’s engine comprises the “presenter identification controller 210,” which monitors “identification of the individual initiating the transaction” by

“storage and retrieval of biometric information such as fingerprints 212 or other biometric data 213 for analysis and comparison.” Randle, [0060]. As explained in Section VI.B, a POSA would have found it obvious to combine Garcia and Randle with a reasonable expectation of success. A POSA would have found it obvious and advantageous to add Randle’s fingerprint authentication to Garcia’s mobile device to improve Garcia’s user verification and security of the remote check deposit process, a well-known consideration at the time. Doermann, 141; Randle, [0005]-[0006].

2. **[14a] the system including: a customer’s handheld mobile device including: camera software that controls the digital camera; and**

Garcia in combination with King (**Ground 1a**) or Garcia in combination with King and Watanabe (**Ground 1b**) renders obvious [14a] as explained for claim 7. Section VI.E; Doermann, 142.

3. **[14b] a downloaded app associated with a bank to control the camera software and to control submitting a check for deposit by causing the customer’s handheld mobile device to perform the following steps:**

Garcia in combination with King (**Ground 1a**) or Garcia in combination with King and Watanabe (**Ground 1b**) renders obvious [14b] as explained for [1b] and claim 7. Sections VI.C.3, VI.E; Doermann, 143.

**4. [14c] instructing the customer to have the digital camera take photos of front and back sides of the check;**

Garcia in combination with King (**Ground 1a**) or Garcia in combination with King and Watanabe (**Ground 1b**) renders obvious [14c] as explained for claim 5. Section VI.D; Doermann, 144.

**5. [14d] using a display of the customer's handheld mobile device to assist the customer in having the digital camera take the photos of the check;**

Garcia in combination with King (**Ground 1a**) or Garcia in combination with King and Watanabe (**Ground 1b**) renders obvious [14d] as explained for [1c]. Section VI.C.4; Doermann, 145.

**6. [14e] assisting the customer as to an orientation for taking the photos;**

Garcia combined with Watanabe discloses [14e] as explained for [1d]. Section VI.C.5; Doermann, 146.

**7. [14f] receiving input from the customer indicating an amount of the check; and**

Garcia alone or in combination with King renders obvious [14f] as explained for [1b]. Section VI.C.3; Doermann, 147.

8. **[14g] using a wireless cellular network, transmitting a copy of the photos over the Internet from the customer's handheld mobile device and submitting the check for mobile check deposit in the bank after the photos of the check are presented to the customer;**

Garcia in combination with King renders obvious [14g]. As explained for [1e], Garcia discloses using a wireless network, transmitting a copy of the photo over the Internet from the customer's handheld mobile device to the bank. Section VI.C.6. Garcia discloses presenting the check photos to the customer, teaching "[i]mmediately displaying the digital image of the user" after capturing and transmitting a digital check image to a receiving institution. Garcia, 5:23-6:9. The "institution that receives the message proceeds to validate and encrypt [sic] it to obtain a digital photograph of the check and a series of data that enable it to automatically process the deposit of said check into the account of the service user." Garcia, 12:16-21; Doermann, 148.

9. **[14h] a computer associated with the bank programmed to update a balance of an account to reflect the check submitted for mobile check deposit by the customer's handheld mobile device; and**

Garcia combined with Slater renders obvious [14h] as explained for [1pre], [1i]. Sections VI.C.1, VI.C.10; Doermann, 149.

10. **[14i] the system configured to perform additional steps including: confirming that the mobile check deposit can go forward after optical character recognition is performed on the check, the optical character recognition determining an amount of the check, performing duplicate detection, and comparing the determined amount to the amount indicated by the customer; and**

Garcia combined with Slater and Randle renders obvious [14i]. As explained for [1g], Garcia alone or in combination with Slater teaches performing OCR on a check to determine its amount. Section VI.C.8. As explained for claim 2, Garcia combined with Randle teaches performing duplicate detection. Section VII.C. As explained for [1h], Garcia combined with Slater teaches comparing the determined amount to the customer-entered amount. Section VI.C.9; Doermann, 150.

11. **[14j] generating a log file for the mobile check deposit, the log file including an image of the check submitted for mobile check deposit.**

Garcia combined with Randle renders obvious [14j] as explained for claim 10. Section VII.G; Doermann, 151.

- L. **Claim 16: The system of claim 14, wherein the customer's handheld mobile device is a Personal Digital Assistant (PDA).**

Garcia discloses that “[t]he possibility of making payments, billing, or performing other bank account transactions through a mobile telephone or other mobile terminal, such as a PDA, has been described in various documents ... .” Garcia, 2:17-23; Doermann, 152.

**M. Claim 17**

1. **[17pre] A system for allowing a customer to deposit a check using a customer's own handheld mobile device, the system including:**

Garcia combined with Randle renders obvious [17pre] as explained for [14pre]. Section VII.K.1; Doermann, 153.

2. **[17a] a bank computer programmed to update a balance of an account to reflect an amount of a check submitted for mobile check deposit by the customer's handheld mobile device, the customer's handheld mobile device including a downloaded app, the downloaded app associated with a bank and causing the customer's handheld mobile device to perform:**

Garcia combined with Slater renders obvious [17a] as explained for [14h], [14b]. Sections VII.K.9, VII.K.3; Doermann, 154.

3. **[17b] receiving input entered by the customer indicating an amount of the check;**

Garcia alone or in combination with King renders obvious [17b] as explained for [14f]. Section VII.K.7; Doermann, 155.

4. **[17c] using a display of the customer's handheld mobile device to assist the customer in having a digital camera take a photo of the check,**

Garcia in combination with King (**Ground 1a**) or Garcia in combination with King and Watanabe (**Ground 1b**) renders obvious [17c] as explained for [14d]. Section VII.K.5; Doermann, 156.

**5. [17d] assisting the customer as to an orientation for taking the photo, and**

Garcia combined with Watanabe renders obvious [17d] as explained for [14e].

Section VII.K.6; Doermann, 157.

**6. [17e] after taking the photo, using a wireless network, transmitting a copy of the photo over the Internet from the customer's handheld mobile device and submitting the check for mobile check deposit in the bank; and**

Garcia in combination with King renders obvious [17e] as explained for [14g].

Section VII.K.8; Doermann, 158.

**7. [17f] the system being configured to update the balance of the account after optical character recognition reads a Magnetic Ink Character Recognition (MICR) line of the check in the photo.**

As explained for [17a] (Section VII.M.2), the Garcia-Randle-King system is configured to update the balance of the account. Doermann, 159.

Randle's "deposit bank 4 captures the check and related information by a scan 5 ... and collects information such as the payee name, bank, payee's account number, the amount of the check and the MICR data." Randle, [0019]. A POSA would have understood that Randle reads the MICR data optically from the check image because that was a standard method of collecting MICR data from a check image. Ex. 1021, [0028] ("The apparatus 90 includes an optical character recognition (OCR) reader 92 for optically reading a MICR line from check image data 91 which is representative of different check image views of the check 10 shown

in FIG. 1.”); Ex. 1022, 14:60-63; Ex. 1023, 2:4-11; Garcia, 11:8-18; Ex. 1016, 43-44 (finding that the most reasonable read of Garcia’s disclosure of performing an OCR on the check image is “extracting the MICR line using the OCR.”). Indeed, Randle teaches that OCR is performed on the check number, which was known to be part of the MICR line. Randle, [0074] (“OCR on check number”); Ex. 1021, [0021], FIG. 1. At a minimum, a POSA would have been motivated to OCR the MICR line in Randle because there was a design need to recognize the MICR data from the check image and OCRing a check image to recognize the MICR data was a well-known predictable solution. Doermann, 160.

**N. Claim 19: The system of claim 17, wherein the downloaded app manages taking the photo.**

Garcia in combination with King (**Ground 1a**) or Garcia in combination with King and Watanabe (**Ground 1b**) renders obvious claim 19 as explained for [14b]-[14e]. Sections VII.K.3-VII.K.6; Doermann, 161.

**O. Claim 20: The system of claim 17, wherein the system is configured to generate a log file for the mobile check deposit, wherein the log file includes an image of the check submitted for mobile check deposit.**

Garcia in combination with Randle renders obvious claim 20. As explained for [14j], a POSA would have been motivated to implement Randle’s log file generation in the combination. Section VII.K.11; Doermann, 162.

## **VIII. GROUND 3a AND 3b: CLAIMS 14-20 ARE UNPATENTABLE OVER KIESSLING, RANDLE, KING, [WATANABE (3b)], AND SLATER**

### **A. Overview of the Combination**

#### **1. Kiessling**

Kiessling discloses “[a] mobile communication device and **a camera module** configured to be attached to a suitable mobile communication device.” Kiessling, Abstract. the camera module is separable from the mobile device. *Id.*, FIGS. 1-2. Kiessling discloses that the mobile communication devices “may be a mobile telephone, personal digital assistant (PDA) or mobile digital assistant (MDA),” “or any other, including future, mobile communication devices.” *Id.*, [0018]. Kiessling discloses that the mobile communication devices have a “variety of applications like messaging services, data communication, e-mail or fax services” and is used “to capture digital photographs or to record digital video clips and, for example, send them to another device ... .” *Id.*, [0002]-[0003]. Kiessling’s “mobile communication device may also include a memory with a stored software program and a microprocessor,” where the “software program and microprocessor can be adapted to control the camera module via the RF connection and to display image data received from the camera module on a display integrated in the main body of the mobile communication device.” *Id.*, [0028]; Doermann, 163.

FIG. 1

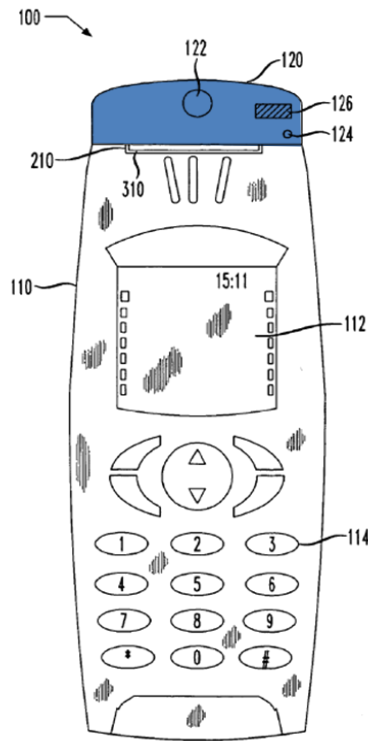
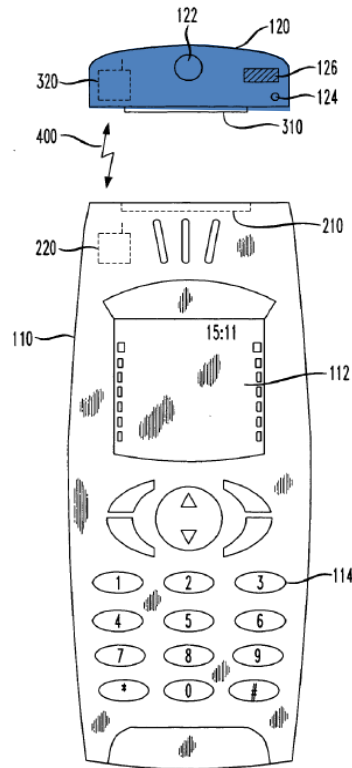


FIG. 2



Kiessling, FIGS 1-2 (annotated).

## 2. Rationale for combining Kiessling, Randle, King, Watanabe, and Slater

A POSA would have been motivated to combine Kiessling with Randle, King, Watanabe, and Slater. As explained in Sections VI.B, VII.B, a POSA would have been motivated to combine Randle, King, Watanabe, and Slater including because it was well known to use digital cameras in handheld mobile devices to deposit checks. Garcia, 4:13-19; Ex. 1018, [0019]-[0022]; Ex. 1013. As shown in Kiessling, a POSA would have recognized that the digital camera in handheld mobile devices can be detachable, so that the digital cameras in the mobile devices “can be used in a more

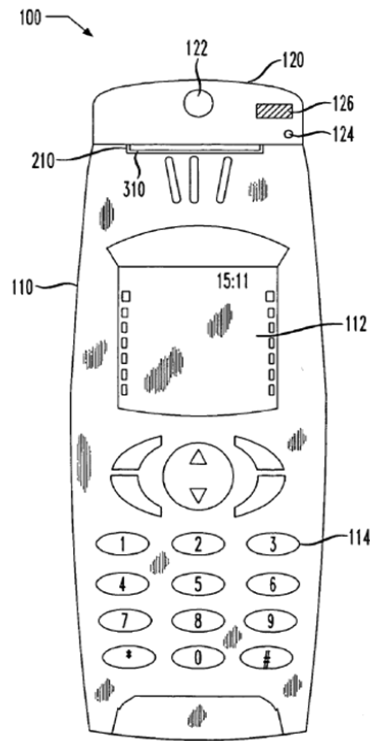
flexible way and that can be easily upgraded.” Kiessling, [0007]; Doermann, 164. A POSA would have been motivated to implement Kiessling’s detachable digital camera in a handheld mobile device used for remote check deposit so that the digital camera can be easily replaced and upgraded to a better camera (a higher resolution camera) for more accurate image capture. Doermann, 164.

**B. Claim 14**

**1. [14pre]**

Kiessling combined with Randle renders obvious [14pre]. Kiessling discloses “a mobile communication device, which may be a mobile telephone, personal digital assistant (PDA) or mobile digital assistant (MDA),” including a main body and “a camera module detachable from the main body.” Kiessling, [0018], FIG. 1. Kiessling’s mobile communication devices are handheld devices owned by customers. *Id.*; Doermann, 165. Kiessling’s mobile communication devices are used for a “variety of applications like messaging services, data communication, e-mail or fax services,” and “captur[ing] digital photographs” to send to another device, suggesting that they would be used for remotely depositing a check. Kiessling, [0002]-[0003]; Doermann, 165.

FIG. 1



Kiessling, FIG. 1.

Randle expressly discloses a remote check deposit system comprising a customer terminal (point of sale terminal) connected to a bank's computer. Randle, [0002], [0007], [0020]. Randle's system includes an engine comprising a "presenter identification controller 210," which monitors "identification of the individual initiating the transaction" by "storage and retrieval of biometric information such as fingerprints 212 or other biometric data 213 for analysis and comparison." *Id.*, [0060]. Given that mobile check deposit was well known at the time, a POSA would have been motivated to use Kiessling's mobile device and implement Randle's

disclosures on end-to-end check processing to achieve a secure and accurate system. Doermann, 166. A POSA would have been motivated to substitute Randle's point-of-sale devices with Kiessling's customer's mobile device to provide a direct transaction between a customer and a bank without having to use a retailer's device, reducing cost and minimizing potential for errors. Doermann, 166.

**2. [14a]**

Kiessling discloses [14a]. Doermann, 167.

Kiessling's mobile communication devices "include a memory with a stored software program," which "can be adapted to control the camera module via the RF connection and to display image data received from the camera module on a display integrated in the main body of the mobile communication device." Kiessling, [0028]; Doermann, 168.

**3. [14b]**

Kiessling in combination with Randle and King renders obvious [14b]. Doermann, 169.

As explained for [14a] (Section VIII.B.2), Kiessling's mobile communication device includes camera software that controls the digital camera. Doermann, 170.

As explained for [1a]-[1b] (Sections VI.C.2-VI.C.3), a POSA would have been motivated to combine King's downloaded software (a downloaded app) associated with a bank to implement specific features associated with the remote

check deposit process, which were well known at the time. The same obviousness rationales discussed in [1a]-[1b] apply to Kiessling because Garcia and Kiessling both disclose mobile devices and a POSA would have recognized that downloading apps for specific features, such as mobile check deposit, was well known. Doermann, 171. A POSA would have understood that the downloaded app in Kiessling-King controls submitting a check for deposit by causing the customer's handheld mobile device to perform the steps discussed below. Doermann, 171.

**4. [14c]**

Kiessling in combination with Randle and King (**Ground 3a**), or Kiessling in combination with Randle, King, and Watanabe (**Ground 3b**) renders obvious [14c]. Doermann, 172.

For **Ground 3a**, Randle's "deposit bank 4 captures the check and related information by a scan 5 to create an image of the front and back of the check." Randle, [0019]. As explained for claim 5 (Section VI.D), King discloses displaying overlay information about the quality of the image and its suitability for OCR on a display of a mobile phone. A POSA would have been motivated to modify Kiessling-Randle with King to implement displaying instructions on Kiessling's display to take photos of front and back sides of the check. Doermann, 173.

For **Ground 3b**, as explained for claim 5 (Section VI.D), Kiessling combined with Randle, King, and Watanabe discloses this limitation. Watanabe discloses

instructing customers to properly capture a document image, displaying a guidance frame and a message notifying that the angle of photography is not vertical. Watanabe, 12:17-21. A POSA would have been motivated to modify Kiessling-Randle-King to display Watanabe's message on the display to instruct the customer to have the digital camera take photos of front and back sides of the check because capturing both sides of a check is important for collecting all check information for validation and verification. Randle, [0019]; Doermann, 174.

**5. [14d]**

Kiessling in combination with Randle and King (**Ground 3a**), or Kiessling in combination with Randle, King, and Watanabe (**Ground 3b**) renders obvious [14d]. Doermann, 175.

For **Ground 3a**, as explained for [14c] (Section VIII.B.4), a POSA would have been motivated to modify Kiessling-Randle with King's overlay information to display instructions to assist the customer taking the check photos. Doermann, 176.

For **Ground 3b**, as explained for [14c] (Section VIII.B.4), a POSA would have been motivated to implement Watanabe's display of instructions in the display of Kiessling-Randle-King to assist the customer taking the check photos. Doermann, 177. As explained for [1c] (Section VI.C.4), a POSA would have been motivated to provide instructions and feedback on the captured images of the check to ensure that

the check is correctly oriented to accurately read the check information. Doermann, 177.

**6. [14e]**

Kiessling in combination with Randle and King (**Ground 3a**), or Kiessling in combination with Randle, King, and Watanabe (**Ground 3b**) renders obvious[14e]. Doermann, 178.

For **Ground 3a**, as explained for [14c]-[14d] (Sections VIII.B.4-VIII.B.5), a POSA would have been motivated to modify Kiessling-Randle with King's overlay information about the quality of the image and its suitability for OCR. A POSA would have recognized that proper orientation is important for OCR and sought to correct any errors in the orientation during capture. Doermann, 179; Ex. 1015, 1:13-32.

For **Ground 3b**, as explained for [14c]-[14d] (Sections VIII.B.4-VIII.B.5), Kiessling in combination with Randle, King, Watanabe renders this limitation obvious. Watanabe discloses assisting the customer as to an orientation for taking the photos, as explained for [1c]. Section VI.C.4. A POSA would be motivated to implement this feature in Kiessling-Randle-King-Watanabe for the reasons explained [1c]. Section VI.C.4. The same obviousness rationales apply because, like the Garcia combination, the Kiessling combination uses a mobile communication device for remote check deposit. Doermann, 180.

**7. [14f]**

Kiessling in combination with Randle and King renders obvious [14f]. Doermann, 181.

Randle discloses collecting “human input amount” as part of its quality assurance path in the remote check deposit process. Randle, [0074]; Doermann, 182. As explained for [14b], the downloaded app in Kiessling’s mobile communication device causes the device to receive the amount of the check from the customer so the system has complete check information for validation and verification. Section VIII.B.3; Doermann, 182. A POSA would have been motivated to implement this feature because the check amount is “critical information” of a check that requires proper quality assurance for accurate processing. Randle, [0044]; Doermann, 182.

**8. [14g]**

Kiessling in combination with Randle and King renders obvious [14g]. Kiessling’s customer sends images captured using its mobile communication devices “to another device by means of the well-known multimedia message system (MMS).” Kiessling, [0003]. A POSA would have understood that Kiessling’s devices are connected to a wireless cellular network for transmitting photos. *Id.*; Doermann, 183.

Randle’s “captured data and image information is checked for quality and if found insufficient, the transaction is flagged or routed for exception processing,”

indicating that the captured check photos are presented to the customer before processing. Randle, [0019]; Doermann, 184. A POSA would have understood that in Kiessling-Randle-King, the photos are presented to the customer on Kiessling's mobile device's display. Doermann, 184. Then, Randle discloses that "the transaction file" including the check image "moves to settlement and clearing," indicating that the check image is sent to the bank. Randle, [0023]. A POSA would have found it obvious to modify Kiessling's devices with Randle's implementation details for remote check deposit because Kiessling's devices are capable of transmitting photos over a cellular network and remote check deposit using mobile devices was well known. Doermann, 184.

## 9. [14h]

Kiessling in combination with Randle and King renders obvious [14h]. As explained for [14pre]-[14b] (Sections VIII.B.1-VIII.B.3), Kiessling-Randle-King discloses a customer using a handheld mobile device to submit photos of a check. Randle discloses that once the check images are verified, "bank to bank funds balances between and among participating banks are settled for the items cleared." Randle, [0019]. Randle discloses that "[p]ayee bank 21, receiving funds, will assign the funds represented by the financial instrument and credit the funds to the respective individual payee 3." *Id.* A POSA would have understood that a bank's computer updates a balance of an account. Doermann, 185.

**10. [14i]**

Randle discloses [14i]. Doermann, 186.

Randle's engine captures an "OCR amount" on a check. Randle, [0074], FIG. 9B (item 121); *id.*, [0019]. As explained for claim 2, Randle discloses that its engine performs duplicate detection. Section VII.C. Randle's engine receives "117 human input amount," in addition to the "121 OCR amount." *Id.*, [0074], FIG. 9B. A POSA would have understood that the engine obtains the check amount information in two different ways to compare for validation. Doermann, 187. This was a well-known and common validation feature in remote check deposit systems at the time. Doermann, 187; Slater, 4:56-5:3. Once the OCR is performed on the check, Randle discloses that the mobile check deposit goes forward to settlement and clearing. Randle, [0021]-[0025]; Doermann, 187.

**11. [14j]**

[14j] is identical to claim 10. Randle discloses [14j] as explained in claim 10 (Section VII.G). The same obviousness rationales in claim 10 apply to [14j]. A POSA would have found it obvious to replace Garcia with Kiessling in the combination because both disclose well known mobile devices with digital cameras that are capable of capturing images of documents. Doermann, 188; Sections VI.A.1, VIII.A.1.

**C. Claim 15: The system of claim 14, wherein the digital camera is separate from the customer's handheld mobile device.**

Kiessling discloses that its “mobile communication device, which may be a mobile telephone, personal digital assistant (PDA) or mobile digital assistant (MDA)” includes “a camera module detachable from the main body that has an RF transmitter, so that an RF connection between the main body and the camera module can be established and data can be transmitted from the camera module to the main body.” Kiessling, [0018], FIG. 2; *id.*, [0036], [0040]; Doermann, 189.

**D. Claim 16**

Kiessling discloses that its “mobile communication device ... may be a mobile telephone, personal digital assistant (PDA) or mobile digital assistant (MDA).” Kiessling, [0018]; Doermann, 190.

**E. Claim 17**

**1. [17pre]**

The combination renders obvious [17pre] as explained for [14pre]. Section VIII.B.1; Doermann, 191.

**2. [17a]**

The combination renders obvious [17a] as explained for [14a]-[14b], [14h]. Sections VIII.B.2-VIII.B.3, VIII.B.9; Doermann, 192.

**3. [17b]**

The combination renders obvious [17b] as explained for [14f]. Section VIII.B.7; Doermann, 193.

**4. [17c]**

The combination renders obvious [17c] as explained for [14d]. Section VIII.B.5; Doermann, 194.

**5. [17d]**

The combination renders obvious [17d] as explained for [14e]. Section VIII.B.6; Doermann, 195.

**6. [17e]**

The combination renders obvious [17e] as explained for [14g]. Section VIII.B.8; Doermann, 196.

**7. [17f]**

Kiessling in combination with Randle and King renders obvious [17f].

As explained for [17a] (Section VIII.E.2), the Kiessling-Randle-King system is configured to update the balance of the account. Randle teaches performing an OCR to read a MICR line for the check in the photo, as explained in Section VII.M.7; Doermann, 197.

**F. Claim 18: The system of claim 17, wherein the digital camera is separate from the customer's handheld mobile device.**

Kiessling discloses claim 18 as explained for claim 15. Section VIII.C; Doermann, 198.

**G. Claim 19**

Kiessling in combination with Randle and King (**Ground 3a**), or Kiessling in combination with Randle, King, and Watanabe (**Ground 3b**) renders obvious claim 19. As explained for [14b]-[14e], [17c]-[17d], the combination teaches using a downloaded app to control Kiessling's camera to capture photos of a check. A POSA would have understood that this includes managing taking the photo because the downloaded app displays instructions for the customer to capture both sides of a check, and images suitable for OCR by properly orienting the check. Doermann, 199-200; Sections VIII.B.3-VIII.B.6, VIII.E.4-VIII.E.5.

**H. Claim 20**

Kiessling in combination with Randle renders obvious claim 20. As explained for [14j], a POSA would have found it obvious to implement Randle's log file generation for mobile check deposit in the Kiessling combination. Section VIII.B.11; Doermann, 201.

**IX. *FINTIV* DISCRETIONARY DENIAL IS INAPPROPRIATE**

Under the Interim Procedure, "the PTAB will not discretionarily deny institution in view of parallel district court litigation where a petitioner presents a

stipulation not to pursue in a parallel proceeding the same grounds or any grounds that could have reasonably been raised before the PTAB.” Interim Procedure, 3. Petitioner stipulates that if the Board institutes IPR on this Petition, it will not pursue in the related district court litigation (*United Services Automobile Association v. Truist Bank*, Case No. 2:22-cv-00291 (E.D. Tex.)) “any ground that [Petitioner] raised or reasonably could have raised” during this proceeding. *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 18-19 (PTAB Dec. 1, 2020); 35 U.S.C. § 315(d).

**X. DISCRETIONARY DENIAL IS INAPPROPRIATE UNDER 35 U.S.C. § 325(d)**

Discretionary denial under § 325(d) is improper because this petition presents prior art and arguments not previously presented to the Office. *Advanced Bionics, LLC v. MedEl Elektromedizinische Geräte GMBH*, IPR2019-01469, Paper 6 (PTAB Feb. 13, 2020) and *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017).

Under the *Advanced Bionics* framework, step 1, and *Becton, Dickinson* factors (a), (b), and (d), none of Garcia, Slater, Watanabe, Randle, King, and Kiessling was applied by the Examiner or was the subject of any arguments made by the Examiner or Applicant during prosecution. Kiessling was not cited during prosecution. Garcia, Slater, Watanabe, Randle, and King were buried among over 1,000 references cited

by USAA during prosecution (Ex. 1002, 2-6, 14-16, 385-426, 984-1025), and the Examiner did not apply these references in a rejection. “The Board has consistently declined exercising its discretion under Section 325(d) when the only fact a Patent Owner can point to is that a reference was disclosed to the Examiner during the prosecution.” *Amgen Inc. v. Alexion Pharms., Inc.*, IPR2019-00739, Paper 15 at 62 (PTAB Aug. 30, 2019); *Amber.io, Inc. v. 72Lux, Inc.*, IPR2020-00015, Paper 8 at 19-20 (PTAB Apr. 1, 2020).

The grounds are materially different from and not cumulative of the references applied during examination: Singfield (U.S. Patent App. Pub. No. 2005/0097046), Hicks (U.S. Patent App. Pub. No. 2006/0248009), and Bellinger (U.S. Patent No. 6,023,705). The combinations in this Petition are different at least because they disclose a downloaded app in a user’s handheld mobile device “receiv[ing] input entered by the customer indicating an amount of the check,” “assist[ing] the customer as to an orientation for taking the photo,” and a bank computer “comparing the amount shown to the amount entered by the customer.” Ex. 1002, 10-12. There is little to no overlap between the current and prior arguments. *Becton*, Paper 8 at 23. The references combined in this petition teach these added limitations.

Should the *Advanced Bionics* framework, step 2, apply, the Examiner erred by failing to consider the combination presented in this petition, particularly because the Board recently found claims related to the ’944 patent reciting similar elements

unpatentable over the same prior art references (Garcia, Slater, Watanabe, Randle) presented in this petition. IPR2021-01077, Paper 73 (cited throughout this Petition).

## **XI. MANDATORY NOTICES**

### **A. Real Parties-in-Interest**

The Petitioner and real party-in-interest is Truist Bank.<sup>1</sup>

### **B. Related Matters**

To Petitioner's knowledge, the '944 patent has been involved in the following:

| <b>Name</b>                                                  | <b>Number</b>         | <b>Forum</b> | <b>Filed</b>  |
|--------------------------------------------------------------|-----------------------|--------------|---------------|
| <i>United Services Automobile Association v. Truist Bank</i> | 2:22-cv-00291-JRG-RSP | E.D. Tex.    | July 29, 2022 |

### **C. Lead and Back-Up Counsel, and Service Information**

| <b>Lead Counsel</b>                                                                                                                                                                                                             | <b>Back-Up Counsel</b>                                                                                                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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<sup>1</sup> Truist Bank is a subsidiary of Truist Financial Corporation. Truist Financial Corporation is not a real party-in-interest to this proceeding.

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>Garrett &amp; Dunner, LLP<br/>2 Seaport Lane, 6th Floor<br/>Boston, MA 02210-2001<br/>Tel: 617-646-1641<br/>Fax: 202-408-4400</p> <p>Christina Ji-Hye Yang (Reg. No. 79,103)<br/>christina.yang@finnegan.com<br/>Finnegan, Henderson, Farabow,<br/>Garrett &amp; Dunner, LLP<br/>901 New York Avenue, NW<br/>Washington, DC 20001-4413<br/>Tel: 202-408-4000<br/>Fax: 202-408-4400</p> <p>David R. Marriott<br/>dmarriott@cravath.com<br/>Cravath, Swaine &amp; Moore LLP<br/>825 Eighth Avenue<br/>New York, NY 10019<br/>Tel.: 212-474-1430<br/>Fax: 212-474-3700<br/><i>Pro hac vice</i> motion filed herewith</p> <p>Sharonmoyee Goswami (Reg. No. 68,806)<br/>sgoswami@cravath.com<br/>Cravath, Swaine &amp; Moore LLP<br/>825 Eighth Avenue<br/>New York, NY 10019<br/>Tel.: 212-474-1928<br/>Fax: 212-474-3700</p> <p>Geoffrey G. Hu (Reg. No. 55,284)<br/>ghu@cravath.com<br/>Cravath, Swaine &amp; Moore LLP<br/>825 Eighth Avenue<br/>New York, NY 10019<br/>Tel.: 212-474-1544<br/>Fax: 212-474-3700</p> |
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Please address correspondence to counsel at the addresses above and Truist-IPRs@finnegan.com. Petitioner consents to service by e-mail.

## **XII. STANDING**

The '944 patent is available for IPR and Petitioner is not barred or estopped from requesting review.

## **XIII. CONCLUSION**

Petitioner requests the Board institute review and cancel the Challenged Claims.

Date: April 13, 2023

Respectfully Submitted,

/Lionel M. Lavenue/

Lionel M. Lavenue, Lead Counsel  
Reg. No. 46,859

**CERTIFICATION UNDER 37 C.F.R. § 42.24(d)**

Pursuant to 37 C.F.R. § 42.24(a)(1)(i), the undersigned hereby certifies that the foregoing PETITION FOR *INTER PARTES* REVIEW contains 13,919 words, excluding the parts of this Petition that are exempted under 37 C.F.R. § 42.24(a), as measured by the word-processing system used to prepare this paper.

/Lionel M. Lavenue/

Lionel M. Lavenue, Lead Counsel

Reg. No. 46,859

**CERTIFICATE OF SERVICE**

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105(a), the undersigned certifies that on April 13, 2023, a copy of the foregoing **Petition for *Inter Partes* Review, Petitioner's Power of Attorney and Designation of Lead and Back-up Counsel, and Exhibits 1001 through 1025** were served by Priority Mail Express on the correspondence address of record indicated in the Patent Office's Patent Center system for U.S. Patent No. 11,544,944.

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