

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS, MARSHALL DIVISION**

UNITED SERVICES AUTOMOBILE)	
ASSOCIATION)	
a Texas reciprocal inter-insurance exchange,)	
)	
Plaintiff,)	
)	
v.)	
)	
PNC BANK N.A.)	Civil Action No. 2:20-cv-00319 JRG
)	
Defendant.)	JURY TRIAL DEMANDED
)	
)	
)	
)	
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)	

FIRST AMENDED COMPLAINT

Plaintiff United Services Automobile Association (“USAA”), by its undersigned counsel, for its Complaint against defendant PNC Bank, National Association (“PNC”), states as follows, with knowledge as to its own acts, and on information and belief as to the acts of others:

1. This lawsuit is brought to address PNC’s use of USAA’s patented technologies that relate to remote check deposit for mobile banking systems. These patented technologies enable USAA to connect members of the military and their families across the globe to financial services. USAA developed these technologies as part of its mission to improve the financial security of its members. In its decades of serving the military community, USAA has worked to innovate in serving the needs of its members, including a lifestyle that can make getting to a bank branch difficult, particularly if they are out to sea or deployed outside the United States. USAA’s innovations and investments are protected by multiple patents issued by the United States Patent & Trademark Office. PNC has chosen to use USAA’s patented technologies

without permission and to use them for its own commercial gain. This lawsuit seeks remedies for PNC's misconduct.

II. THE PARTIES

2. Plaintiff USAA is a reciprocal interinsurance exchange and unincorporated association organized under the laws of the State of Texas having its principal place of business at 9800 Fredericksburg Road, San Antonio, Texas 78288. The USAA family of companies is dedicated to the financial well-being of members of the military and their families through the provision of insurance and banking products and services, and investing services. USAA does business in this judicial district, and through its website at www.usaa.com and USAA Mobile smartphone applications.

3. On information and belief, PNC is a national banking association organized under the laws of the United States of America. PNC does business throughout the United States, including in this judicial district.

III. JURISDICTION AND VENUE

4. Subject matter jurisdiction is based on 28 U.S.C. § 1338, in that this action arises under federal statute, the patent laws of the United States (35 U.S.C. §§ 1, *et seq.*).

5. The Court has personal jurisdiction over PNC because it has substantial, systematic and continuous contacts with this judicial district. PNC has a regular and established place of business in the State of Texas and in the Eastern District of Texas, including operating several physical branches in this judicial district, and conducting business with customers residing in this judicial district both through its branches and its mobile banking services. PNC has committed acts of patent infringement and, as detailed below, contributed to or induced acts of patent infringement by others in this judicial district. PNC is registered to do business in Texas and maintains an agent authorized to receive service of process within Texas.

6. Venue is proper under 28 U.S.C. § 1400(b) because PNC has committed acts of infringement and maintains a regular and established place of business in this judicial district.

7. PNC occupies several permanent, physical places within this District from which PNC carries out its business. For example, PNC has physical “solution center” branches in the following locations in this District: (1) Allen Solution Center, 829B W Stacy Road, Suite 100, Allen, Texas 75013; (2) Denton Solution Center, 2310 W. University Drive, #1540, Denton, Texas 76201; and (3) Plano Solution Center, 7300 Dallas Pkwy, Suite A140, Plano, Texas 75024. PNC conducts business from these solution centers using physical equipment and employees located within the District. For example, on information and belief, each of these solution center branches allows customers to obtain certain banking services from PNC via in-person appointments with PNC employees. In addition, each of these locations offers customers the opportunity to conduct banking business via video tellers and/or traditional ATM machines. As a further example, PNC maintains several ATM locations in this district.

IV. BACKGROUND ALLEGATIONS

USAA’s Investments And Pioneering Innovations

8. This is an action for infringement of patents awarded to research and development teams at USAA for their years of work developing and improving technologies that, among other things, allow banking customers to easily and conveniently deposit paper checks into their accounts from their smartphones – wherever they might be in the world.

9. USAA has been serving present and former members of the U.S. military and their families since 1922 and is one of America’s leading insurance and financial services companies. USAA offers its members a wide range of insurance and banking products and services, and investing services designed to help them meet their financial security needs. Headquartered in San Antonio, Texas, with offices in several states and Europe, USAA employs more than 33,000 people to provide for the financial well-being of over 12 million members.

10. Unlike traditional banks, which usually maintain a network of brick-and-mortar bank branches or ATMs for customers to use, USAA typically interacts with its members remotely, either by mail, telephone, or with increasing frequency through its usaa.com website or USAA’s mobile application. USAA’s online and mobile presence is critical to its members’

well-being, particularly as USAA's military members are often stationed in distant locations around the world with limited access to traditional banking services.

11. Driven by its mission to serve its members, starting in or around 2004, USAA invested substantial research and development resources into developing and implementing systems and methods that would provide USAA's members with a real-time capability to deposit a financial instrument from just about anywhere. These pioneering systems and methods resulted in a prototype developed by 2005, and the launch in 2006 of a consumer device remote check deposit system under the name Deposit@Home®. In 2009, USAA launched an application branded as Deposit@Mobile®, which today is available and used worldwide on devices such as iPhones, iPads and Android-based mobile devices. For the first time in banking history, USAA's patented systems allowed customers to deposit checks anytime, anywhere by taking photographs with consumer electronics that consumers actually own or can easily acquire, such as a mobile phone's digital camera.

12. To date, USAA has invested many millions of dollars and thousands of employee-hours in the development and implementation of its mobile deposit technologies.

The Asserted USAA Patents

13. This action involves four of the patents that protect USAA's investments in its mobile deposit technologies: U.S. Patent Nos. 10,482,432 (the "'432 Patent"), 10,621,559 (the "'559 Patent"), 8,977,571 (the "'571 Patent"), and 8,699,779 (the "'779 Patent") (collectively, in this Complaint, "USAA Patents").

14. The '432 and '559 Patents are entitled "Systems and methods for remote deposit of checks," and were invented by Charles Lee Oakes III, Randy Ray Morlen, Bharat Prasad, and Troy Bartlette Huth. The application from which the '432 and '559 Patents derive their effective filing date was filed by USAA on October 31, 2006.

15. The systems and methods taught by the '432 and '559 Patents solve technological problems associated with earlier systems used for capturing images of checks. These innovations allowed USAA, for the first time in banking history, to allow users to transform general purpose

consumer devices that they have in their homes or are otherwise easy to acquire into a check image capture device. This had a profound impact on USAA's members and USAA's ability to accept deposit of remote checks, including because it eliminated the need for consumers (many of whom have limited means) to acquire or access specialized check processing equipment to deposit checks remotely.

16. Among other things, the '432 Patent's system and method includes technological solutions to assist the customer in placing the digital camera at a proper distance from the check, present the photo of the check to the customer after the photo is taken with the digital camera, confirm that the mobile check deposit can go forward after optical character recognition is performed on the check in the photo, and check for errors before submitting the check for mobile check deposit. As another example, the '559 patent's device and method performs operations that include, among other things, receiving a digital image depicting at least portion of the check submitted by the user, applying optical character recognition to the digital image, determining an amount for the remote deposit of the check based on the optical character recognition, comparing the determined amount against a customer entered amount, optically reading a magnetic ink character recognition (MICR) line depicted in the digital image, performing duplicate check detection, and determining the image is suitable for creating a substitute check and accepting the digital image. Additional details and improvements to mobile check depositing systems are further described in the patents.

17. The '571 Patent is entitled "Systems and methods for image monitoring of check during mobile deposit," and was invented by Michael Patrick Bueche Jr., Bharat Prasad, Minya Liang, Reynaldo Medina, and Charles Lee Oaks III. The application from which the '571 Patent derives its effective filing date was filed by USAA on August 21, 2009. The '571 Patent specifically relates to improvements to the remote check deposit process that include, for example, monitoring of the check with respect to a monitoring criterion, a feedback system that instructs the user regarding how to satisfy the monitoring criterion, and an automatic capture system that works in concert with the monitoring system to automatically capture a check image

when the monitoring criterion is satisfied. The '571 Patent's improvements to mobile check deposit systems are further described in the specifications.

18. The '779 Patent is entitled "Systems and methods for alignment of check during mobile deposit," and was invented by Bharat Prasad, Minya Liang, and Reynaldo Medina. The application from which the '779 Patent derives its effective filing date was filed by USAA on August 28, 2009. The '779 Patent specifically relates to improvements to the remote check deposit process that include, among other things, projection of an alignment guide in the display of a mobile device, determination of "whether the image of the check aligns with the alignment guide," automatic capture of the image of the check when the image is determined to align with the guide, and transmittal of the captured image of the check from the camera to a depository via a communication pathway between the mobile device and the depository. This system and method solve discrete, technological problems associated with computing systems used as part of capturing images of checks for deposit on mobile devices. The '779 Patent's improvements to mobile check deposit systems are further described in the specifications.

19. The addition of the '571 and '779 Patent's improvements to remote check deposit systems at USAA and elsewhere significantly increased their efficiency and performance.

20. The '571 and '779 Patents overcame six post-grant review petitions at the Patent Trademark and Appeals Board ("PTAB"). Wells Fargo filed petitions for Covered Business Method ("CBM") review against the '571 Patent (CBM2019-00004) and '779 Patent (CBM2019-00005) in November 2018. The PTAB denied institution of both petitions, finding that the claims of the '571 Patent and '779 Patent were directed to technological features that are novel and unobvious over the prior art and solve technical problems using technical solutions and were thus ineligible for CBM review. Wells Fargo subsequently filed petitions for Inter Partes Review ("IPR") against the '571 Patent (IPR2019-01082) and '779 Patent (IPR2019-01083). On November 24, 2020, the PTAB issued Final Written Decisions in favor of USAA, finding every challenged claim not invalid over the prior art. The PTAB also recently denied institution of IPR petitions against the '571 Patent and '779 Patent filed by Mitek Systems, Inc.

21. Prior to USAA's inventions, checks were processed for deposit using specialized check scanning machines, which typically were located in bank facilities or leased to businesses for use in their back offices. High-tech equipment manufacturers sold a variety of check scanning machines that cost up to tens of thousands of dollars.

22. The passage of the Federal "Check 21 Act" in 2003 increased the technical risks associated with check imaging. A report by Alogent entitled "The Client Business Case for Remote Deposit Capture" explained how, under Check 21, items would be returned due to poor image quality, either on the digital image, or the printed Image Replacement Document (IRD).

23. The deposit of check images requires compliance with certain technical specifications, such as the "Specifications for Electronic Exchange of Check and Image Data," also known as DSTU X9.37-2003: a technical specification published by the Accredited Standards Committee X9, Inc. that spells out the file sequences, record types, and field formats to be used for the electronic exchange of check MICR line, associated check processing data and check images.

24. An industry white paper entitled "Check 21: Controlling Image Quality at the Point of Capture" was published in 2004. The white paper acknowledges that one challenge facing remote deposit capture ("RDC") is that the human eye does not have the ability to distinguish between a check image that meets digital processing criteria and one that does not. For example, the white paper points out that what is an acceptable image to one person may be unacceptable to another. The white paper discussed the importance of ensuring that an acceptable image of a check is captured at the first point of entry to the check clearing process, as a check image with quality issues is likely to be unpayable and represents a liability to the bank. Further, the report identified and discussed basic measurement metrics to ensure that a check image may be successfully cleared. Also in 2004, the FSTC, a financial industry technical group, published a report entitled "Image Quality and Usability Assurance- Phase I Project." The report discussed a number of factors such as image size, skew, lightness/darkness, focus, and noise, among others that can lead to a failed image. Other publications discussing the perceived challenges of remote

deposit include statements made in 2005 by CIT Engineering Team, who designs specialized scanners for the RDC process, the RDC process is so delicate that small insights and/or small oversights are what distinguish an outstanding check scanning product from a mediocre one.

25. When USAA introduced its patented technology to the market, it was met with both delight and concern because of its disruptive force. For example, in September 2009, AdAge published a report entitled “How Mobile Technology Is Changing Banking’s Future,” which observed that “USAA represents the bleeding edge of mobile banking technology” and described its pioneering system as a “technological development [] that allow[s] for deposits by iPhone and mobile payments.” As another example, in June 2009, Celent published an article entitled “USAA’s Mobile Remote Deposit Capture Initiative.” The article stated that mobile RDC is so disruptive that many banks might pass on the idea. The report acknowledged that USAA’s mobile RDC provided a compelling competitive advantage over other banks.

26. By facilitating and improving remote mobile deposit, the innovations of the USAA Patents facilitate significant cost savings and provide many other financial benefits to banks. For example, in 2011, NCR published a white paper entitled “Mobile Remote Deposit Capture.” The white paper reported that the average cost of processing a paper check transaction at a bank branch is \$3.75, and that a mobile deposit costs just \$0.14.

27. As another example, in 2015, Celent published a report entitled “State of Remote Deposit Capture 2015- Mobile Is the New Scanner.” The abstract of the report observed that mobile RDC was becoming the alternative to specialized check scanners, with banks racing to offer mobile RDC, which Celent predicted would have a profound effect on the branch channel. The report also observed that USAA’s systems result in a substantial improvement over the existing marketplace of complex, expensive check scanning machines and that by the date of the report mobile check image capture users outnumbered those using specialize desktop devices by more than 40 to 1. As another example, in 2016, an article entitled “Mobile Check Deposits- Pro Tips to Ensure They Go Smoothly” was published by an industry technology analyst on nerdwallet.com. The article acknowledged that mobile check deposit had become the most

popular feature of mobile banking, estimating that there are about 87 million people in the U.S. depositing checks using mobile check deposit. The article also stated that autocapture provides a technological solution for capturing an image that allows even a first-time user to be successful.

28. In a 2017 report entitled “2017 Mobile Deposit Benchmark Report,” a leading technology consulting firm reiterated the importance of the autocapture feature to mobile deposit. Among other things, it stated, “auto-capture must now be treated as a must-have feature across all strata of the financial services industry.”

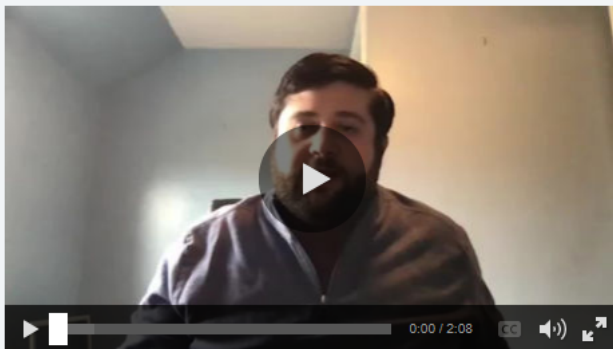
29. An industry expert hired by Wells Fargo testified in prior proceedings that the patented auto-capture techniques are now “widely acknowledged as the foundation for a successful mobile check deposit.”

PNC Bank’s Infringement

30. PNC is one of the largest full-service consumer and commercial banking providers in the United States. According to PNC’s website, PNC customers now deposit on average over 2 million checks per month using their mobile devices.

31. PNC’s mobile remote deposit capture systems, including but not limited to *PNC Mobile Deposit* and *PNC Deposit On-Site Mobile®* are referred to herein, along with any other infringing instrumentalities that include similar functionality, as “PNC Mobile Deposit.” PNC states that users “can easily deposit a check right from your smartphone” using PNC Mobile Deposit, touting that deposit can be done “quickly, conveniently, and securely with mobile deposit and our mobile banking apps”:

See How Easy it is to Deposit a Check with PNC Mobile Deposit



PNC customers deposit on average over 2 million checks per month^[2] using their mobile devices!

See how easily you can deposit a check right from your smartphone — quickly, conveniently, and securely with mobile deposit and our mobile banking apps.

With our standard funds availability, deposits completed before 10 p.m. ET on a business day will be available the next day at no charge^[3].

[Mobile Deposit FAQs »](#)

[Explore additional mobile banking options »](#)

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32. PNC also promotes PNC Mobile Deposit with video advertisements, including commercials specifically touting mobile deposit, and has offered special promotions to customers to encourage them to try mobile deposit.

33. PNC receives mobile check deposits from customers who, for example, download its application for iPhone or Android devices and use the application and device as instructed by PNC, including as detailed on PNC's website and in its user guidelines.

34. PNC did not release PNC Mobile Deposit until years after USAA had already implemented and released its patented technology to widespread adoption, demonstrating the commercial viability of USAA's patented technology.

35. PNC was on notice and, on information and belief, had actual knowledge of its infringement of the USAA Patents before the filing of the Complaint, including because the USAA Patents are publicly known and have been widely publicized in the banking industry, including in major publications read by PNC employees and specifically referring to PNC.

36. For example, in 2018 USAA filed two complaints against Wells Fargo for infringement of certain of USAA's mobile deposit patents. The first complaint, filed in June 2018, included claims for infringement of the '571 and '779 Patents. The second complaint, filed in August 2018, included claims for infringement of U.S. Patent No. 10,013,681, the parent to the '432 and '559 Patents (which had not issued at that time).

37. USAA's claims based on the '571 and '779 Patents and the parent to the '432 and '559 Patents were widely discussed in the banking industry. As an example, the *American Banker*, a publication which describes itself as "the essential resource for senior executives in banking and financial services, keeping its users updated on vital developments and focusing sharply on their most important concerns" ran a series of articles reporting on the USAA lawsuits against Wells Fargo and repeatedly noted the opinion of the publication the USAA patents had significant implications for other banks using USAA's mobile deposit technology. These included, for example, a June 2018 article entitled "Is USAA vs. Wells Fargo the start of a broader patent war?" Wells Fargo was found, *inter alia*, to infringe the '571 patent, and USAA

was awarded \$200 million in past damages. The verdict was also widely reported on in the banking industry. For example, a November 2019 article entitled “USAA won \$200M from Wells Fargo in patent fight. Will others be on the hook?”

38. Another article in the *American Banker*, published in January 2020, discussed the result of the second lawsuit, in which Wells Fargo was found to infringe the ’681 Patent (and another patent) and USAA was awarded \$102.8 million in past damages. For example, the article reported “Wells Fargo has lost a second mobile deposit patent lawsuit brought against it by USAA” and noted that “other banks should be on alert if they use the same technology” and specifically referenced USAA’s Deposit@Mobile product. Similar articles appeared in other major publications such as *Bloomberg* and *Business Insider*.

39. Indeed, some of the news coverage of USAA’s mobile deposit patents references PNC Mobile Deposit. For example, *S&P Global*, a market intelligence publication covering commercial banking, published a November 2019 article entitled “Wells Fargo ordered to pay \$200M for infringing USAA mobile deposit patents” that stated “other banks with apps for mobile check deposit could also be on the hook,” and specifically listed “PNC Financial Services Group Inc.” As another example, a June 2018 article by IPWatchDog entitled “USAA Asserts Mobile Check Deposit Patents Against Wells Fargo” stated that banking features offered by PNC “resemble” features covered by “USAA’s patents,” including specifically the ’571 Patent.

40. Upon information and belief, PNC monitors these industry publications. For example, PNC’s website has specifically touted and cited coverage from the *American Banker*, *Bloomberg*, *Business Insider*, and *S&P Global*.

41. In addition to the widespread coverage of USAA’s lawsuits against Wells Fargo, USAA’s Deposit@Mobile® technology has been well-known and publicized for years, and USAA receives widespread acclaim for its pioneering innovations in mobile deposit. For example, a 2020 report by Javelin Strategy and Research named USAA “as an overall ‘Leader’ in both mobile and online banking,” and also evaluated PNC. Upon information and belief, PNC is aware of this and other acclaim for USAA’s Deposit@Mobile® products, including because it

was widespread in the industry and because some of the press surrounding USAA also referred specifically to PNC. As an example, a 2011 article in the *Washington Post* entitled “PNC launches mobile bank deposits” noted that “USAA Federal Savings first introduced mobile deposit in 2009.” PNC has previously cited articles from the *Washington Post* on its website and, on information and belief, closely monitors media coverage discussing its own products.

42. USAA is further informed and believes that PNC has actual and constructive knowledge of the USAA Patents as a result of, among other things, its awareness of USAA’s Deposit@Mobile® products and USAA’s patent marking. For example, USAA marks its Deposit@Mobile® products pursuant to 35 U.S.C. § 287 through the USAA mobile application. As an example, the Deposit@Mobile® mobile application contains a “United States Patents” section specifically listing the ’432, ’559, ’571, and ’779 Patents by patent number.

43. Further, to the extent that PNC contends it lacked actual knowledge of its infringement of any of the USAA Patents before the time of service of this Complaint, it was willfully blind by deliberately avoiding investigating USAA’s patents or inspecting USAA’s mobile check deposit application and/or instructing its employees not to investigate USAA’s patents or inspect USAA’s mobile check deposit application.

44. PNC also has actual knowledge of its infringement of the USAA Patents by virtue of the complaint filed against PNC on September 30, 2020, and further by virtue of the instant amended complaint.

45. In a letter dated October 2, 2020, PNC further acknowledged that it had actual knowledge of the prior Wells Fargo litigation and the patents asserted in that litigation (which include the ’571 and ’779 patents and the parent to the ’432 and ’559 Patents).

46. As detailed below, PNC’s conduct with respect to Mobile Deposit constitutes willful infringement of USAA’s Patents. PNC’s use of the USAA Patents is not licensed or authorized by USAA in any way.

47. PNC has profited, and continues to profit, including by providing its infringing mobile deposit service to millions of PNC customers without USAA's permission and without any compensation to USAA, materially harming USAA and its members.

V. FIRST CLAIM FOR RELIEF – '432 PATENT

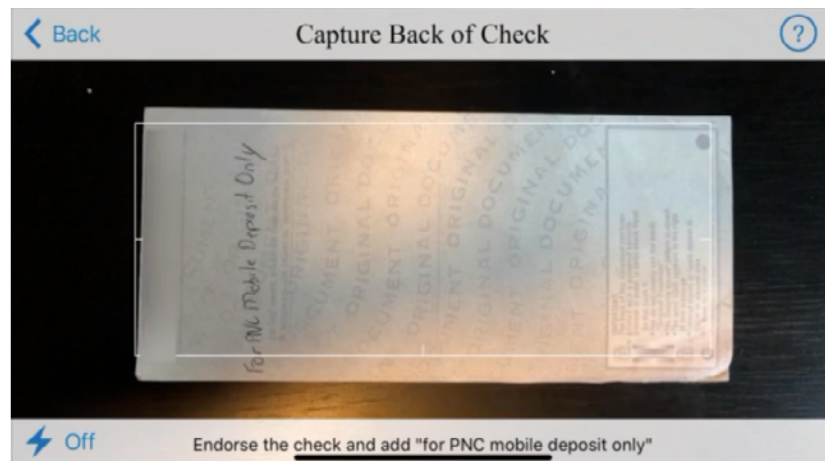
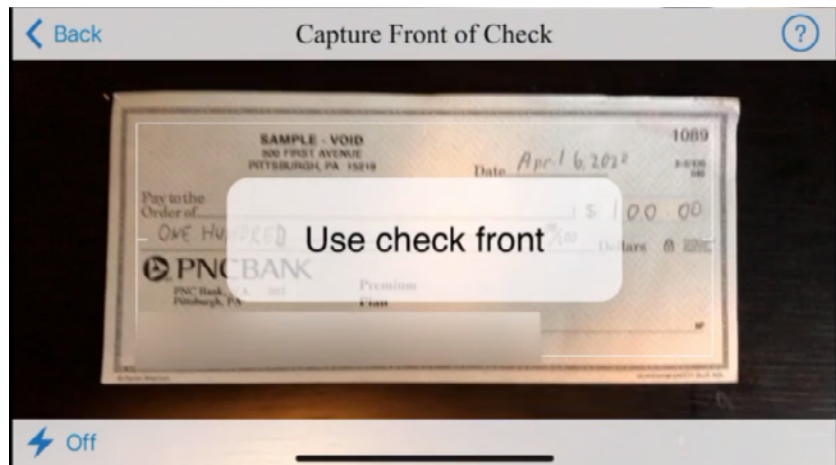
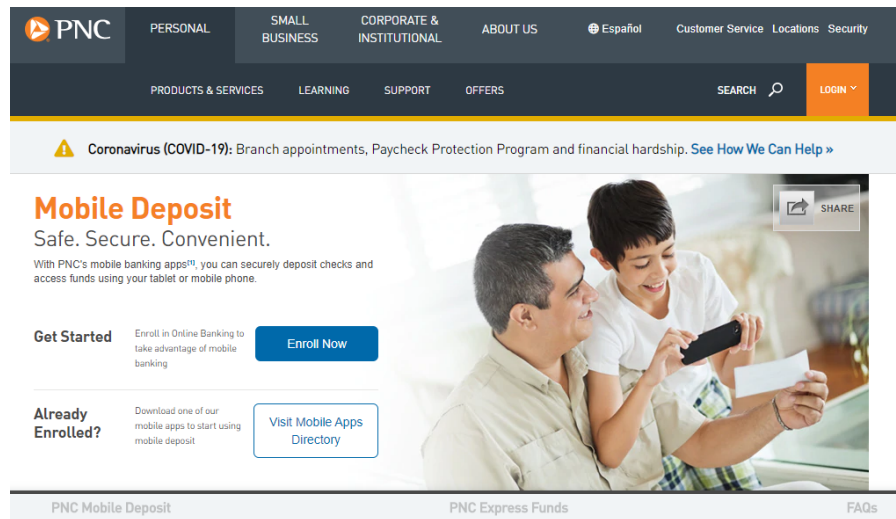
48. USAA re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

49. The '432 Patent, entitled "Systems and methods for remote deposit of checks" was duly and legally issued on November 19, 2019. A true and correct copy of the '432 Patent is attached as Exhibit A.

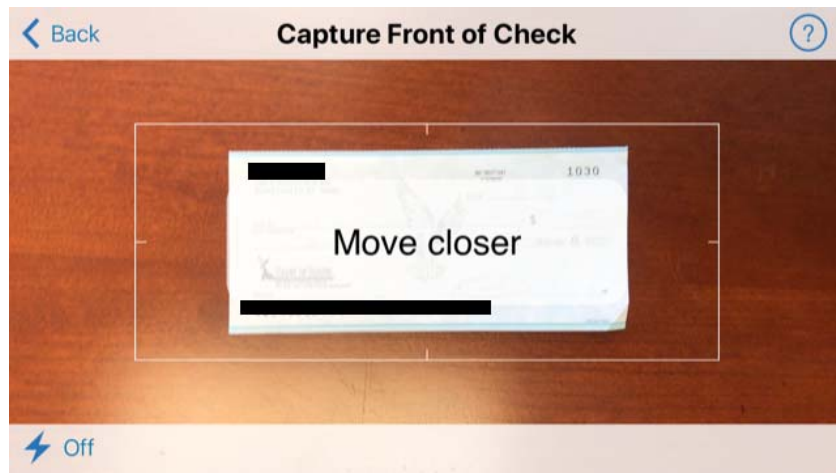
50. USAA owns by assignment the entire right, title, and interest in and to the '432 Patent, including the exclusive right to seek damages for past, current, and future infringement thereof.

51. USAA is informed and believes, and on this basis alleges, that PNC, agents of PNC, and/or third parties acting under PNC's direction and control, have committed and continue to commit acts of direct infringement of one or more claims of the '432 Patent literally and/or under the doctrine of equivalents, by making, using, selling, offering to sell and/or importing into the United States, PNC Mobile Deposit. Further, PNC controls the infringing system as a whole and obtains benefits from it.

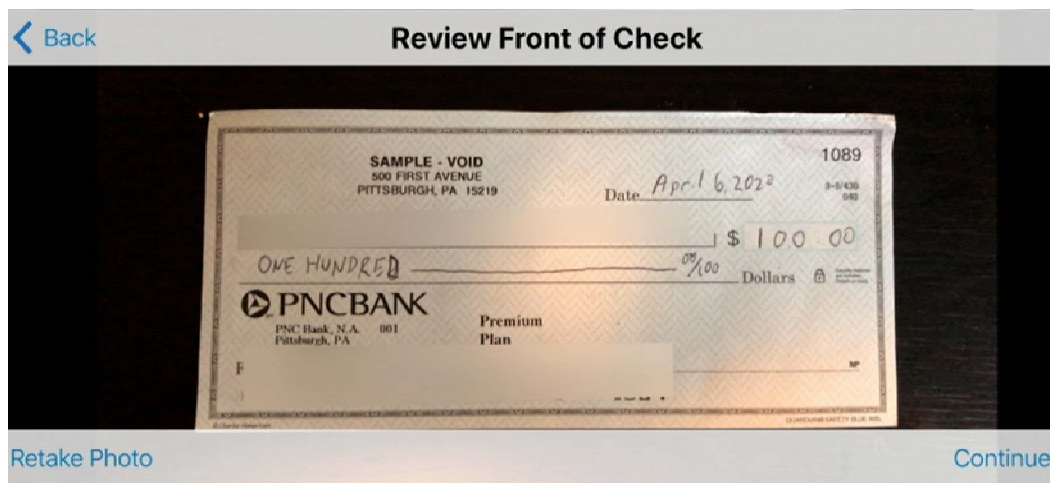
52. For example, the PNC Mobile Deposit system through which PNC receives deposits includes a mobile device including PNC's downloaded app, which PNC provides to control check deposit by causing the mobile device to perform various functions such as instructing the customer to have a digital camera take a photo of a check, as illustrated for example by the following images from PNC's website:



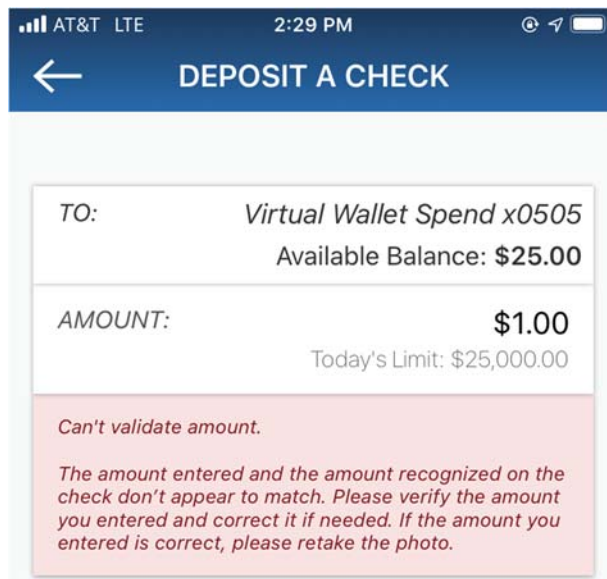
53. As another example, PNC Mobile Deposit gives an instruction to assist in placing the digital camera at a proper distance away from the check for taking the photo, including as depicted in the below screenshot from the PNC Mobile Deposit application:



54. In addition, PNC Mobile Deposit presents the photo of the check after the photo is taken with the mobile phone's digital camera.



55. PNC Mobile Deposit causes the mobile device to confirm that the mobile check deposit can go forward after optical character recognition (“OCR”) is performed on the check in the photo, and causes the mobile device to check for errors before the submitting step. For example, as depicted in the below screenshot from the PNC Mobile Deposit application, if the customer-entered amount and the OCR determined amount do not match, the PNC Mobile Deposit application will display an error message stating: “The amount entered and the amount recognized on the check don’t appear to match. Please verify the amount you entered and correct it if needed. If the amount you entered is correct, please retake the photo.”



56. PNC also is inducing infringement of the '432 Patent, in violation of 35 U.S.C. § 271(b), including by knowingly encouraging or aiding third parties to make, use, sell or offer to sell PNC Mobile Deposit in the United States, or to import PNC Mobile Deposit into the United States, and/or in violation of 35 U.S.C. § 271(f)(1), by supplying or causing to be supplied PNC Mobile Deposit in or from the United States, without license or authority from USAA, with knowledge of or willful blindness to the fact that PNC's actions will induce others to directly infringe the '432 Patent. PNC actively encourages, directs, and controls third parties, including its end users, to make and/or use PNC Mobile Deposit in an infringing manner, including through PNC's website, advertisements, documentation/instructional material, customer support, application and feature descriptions, and in-application instructions. PNC has intentionally aided and encouraged third parties, including its end users, to use PNC Mobile Deposit in the United States in a manner that it knows would infringe or have a high probability of infringing the '432 Patent, with the specific intent that those performing the acts infringe the '432 Patent.

57. PNC is contributorily infringing the '432 Patent in violation of 35 U.S.C. § 271(c), by selling, offering to sell, and/or importing into the United States, and/or in violation of 35 U.S.C. § 271(f)(2), by supplying or causing to be supplied in or from the United States, PNC

Mobile Deposit for use in infringing the '432 Patent, constituting a material part of the invention, knowing PNC Mobile Deposit to be especially made or especially adapted for use in infringing the '432 Patent. PNC Mobile Deposit is not a staple article or commodity of commerce suitable for substantial non-infringing use.

58. As a result of PNC's infringement of the '432 Patent, USAA has been damaged. In addition, PNC's infringing acts and practices have caused and are causing immediate and irreparable harm to USAA. USAA is entitled to recover for damages sustained as a result of PNC's wrongful acts in an amount yet to be determined and to receive such other and further relief, including equitable relief, as this Court deems just and proper.

59. USAA is further informed, and on this basis alleges, that PNC's infringement of the '432 Patent has been and continues to be deliberate and willful, and, therefore, this is an exceptional case warranting an award of enhanced damages for up to three times the actual damages awarded and attorney's fees to USAA pursuant to 35 U.S.C. §§ 284-285. As discussed above, PNC has had knowledge of the '432 Patent and its infringement thereof, and yet has deliberately continued to infringe in a wanton, malicious, and egregious manner, with reckless disregard for USAA's patent rights.

VI. SECOND CLAIM FOR RELIEF – '559 PATENT

60. USAA re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

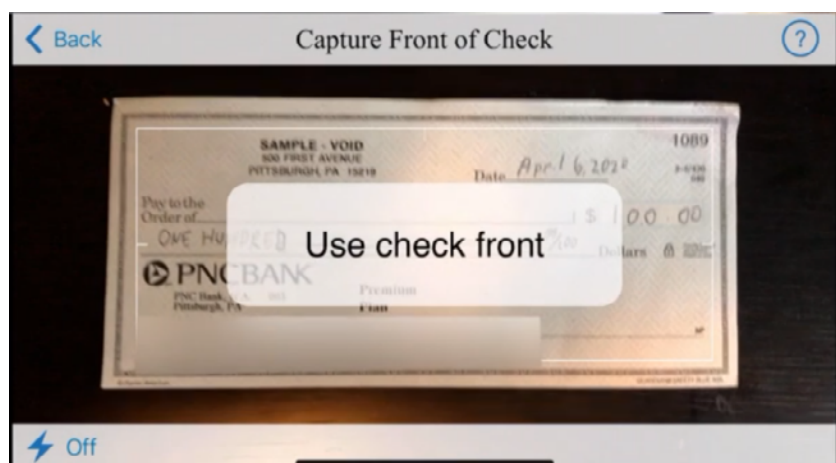
61. The '559 Patent, entitled "Systems and Methods for Remote Deposit of Checks," was duly and legally issued on April 14, 2020. A copy of the '559 Patent is attached as Exhibit B.

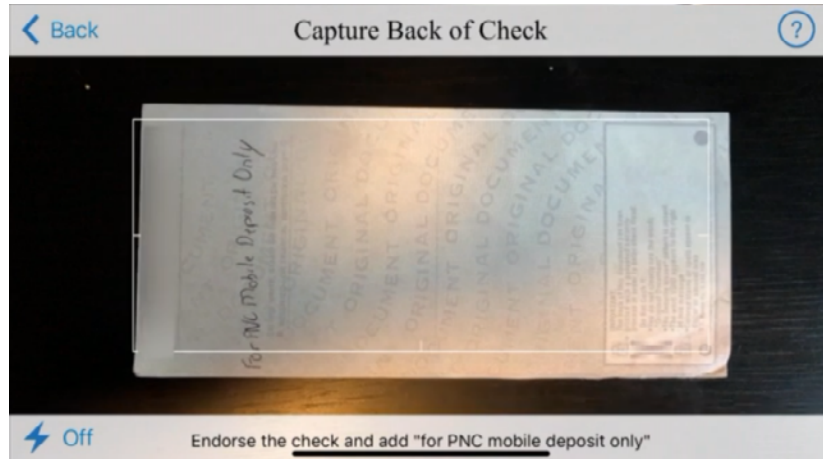
62. USAA owns by assignment the entire right, title, and interest in and to the '559 Patent, including the exclusive right to seek damages for past, current, and future infringement thereof.

63. USAA is informed and believes, and on this basis alleges, that PNC, agents of PNC, and/or third parties acting under PNC's direction and control, have committed and

continue to commit acts of direct infringement of one or more claims of the '559 Patent literally and/or under the doctrine of equivalents, by making, using, selling, offering to sell and/or importing into the United States, PNC Mobile Deposit. Further, PNC controls the infringing system as a whole and obtains benefits from it.

64. For example, PNC Mobile Deposit includes a computing device for processing a remote deposit of a check, which includes memory having stored thereon executable instructions that, when executed by the first processing circuitry, cause it to perform operations including to receive a digital image of a check, the digital image transmitted using a mobile device associated with an image capture device, the digital image being captured by the image capture device, as illustrated on PNC's website and marketing materials including the illustrative images below.





65. As another example, PNC Mobile Deposit detects an image format of the digital image, determines that it is stored in a first image format, and converts that image, wherein an image quality of the first image format is greater than an image quality of the second format.

66. In addition, PNC Mobile Deposit applies optical character recognition to the digital image, determines an amount for the remote deposit of the check based on the optical character recognition applied to the digital image, and compares the amount against a customer entered amount. For example, if the customer entered amount and OCR determined amount do not match, the PNC Mobile Deposit application will display an error message stating “The amount entered and the amount recognized on the check don’t appear to match. Please verify the amount you entered and correct it if needed. If the amount you entered is correct, please retake the photo.”

67. Further, as another example, PNC Mobile Deposit optically reads an MICR line depicted in the digital image, and determines a routing number from the optically read MICR line. For example, as shown in the below screenshot, if PNC Mobile Deposit is unable to optically read the MICR line, it displays an error message stating “The photo isn’t clear enough to deposit your check. Please retake the photo, making sure the check is well-lit and placed on a contrasting surface.”



68. Upon information and belief, PNC Mobile Deposit performs duplicate detection on the check depicted in the digital image based at least in part on information obtained via the optical character recognition applied to the digital image. For example, a recent article stated: “At PNC, the bank’s mobile deposit function ‘performs an automated duplicate check detection process when a check is presented for deposit, which compares submitted items to a recent history of accepted items,’ PNC spokeswoman Shannon Mortland said. ‘Duplicates are rejected and not deposited, and the PNC customer is notified.’” See <https://www.cleveland.com/moneymatters/2019/08/citizens-bank-customer-gives-someone-a-100-check-and-it-clears-twice-money-matters.html>.

69. As another example, PNC Mobile Deposit determines the digital image is suitable for creating a substitute check and sufficient to go forward with the deposit. For example, PNC Mobile Deposit provides a confirmation of successful deposit if the check images are sufficient to go forward with the deposit using a substitute check.

70. As an additional example, PNC Mobile Deposit includes second processing circuitry and a second memory having stored thereon executable instructions that, when executed by the second processing circuitry, cause the second processing circuitry to perform second

operations, including accepting the digital image for check deposit in place of the check depicted in the digital image. For example, PNC Mobile Deposit provides a confirmation of successful deposit and instructs users to retain the original check, and then destroy it after confirming the deposit has been credited to their account.

71. PNC is inducing infringement of the '559 Patent, in violation of 35 U.S.C. § 271(b), including by knowingly encouraging or aiding third parties to make, use, sell or offer to sell PNC Mobile Deposit in the United States, or to import PNC Mobile Deposit into the United States, and/or in violation of 35 U.S.C. § 271(f)(1), by supplying or causing to be supplied PNC Mobile Deposit in or from the United States, without license or authority from USAA, with knowledge of or willful blindness to the fact that PNC's actions will induce others to directly infringe the '559 Patent. PNC actively encourages, directs, and controls third parties, including its end users, to make and/or use PNC Mobile Deposit in an infringing manner, including through PNC's website, advertisements, documentation/instructional material, customer support, application and feature descriptions, and in-application instructions. PNC has intentionally aided and encouraged third parties, including its end users, to use PNC Mobile Deposit in the United States in a manner that it knows would infringe or have a high probability of infringing the '559 Patent, with the specific intent that those performing the acts infringe the '559 Patent.

72. PNC is contributorily infringing the '559 Patent in violation of 35 U.S.C. § 271(c), by selling, offering to sell, and/or importing into the United States, and/or in violation of 35 U.S.C. § 271(f)(2), by supplying or causing to be supplied in or from the United States, PNC Mobile Deposit for use in infringing the '559 Patent, constituting a material part of the invention, knowing PNC Mobile Deposit to be especially made or especially adapted for use in infringing the '559 Patent. PNC Mobile Deposit is not a staple article or commodity of commerce suitable for substantial non-infringing use.

73. As a result of PNC's infringement of the '559 Patent, USAA has been damaged. In addition, PNC's infringing acts and practices have caused and are causing immediate and

irreparable harm to USAA. USAA is entitled to recover for damages sustained as a result of PNC's wrongful acts in an amount yet to be determined and to receive such other and further relief, including equitable relief, as this Court deems just and proper.

74. USAA is further informed, and on this basis alleges, that PNC's infringement of the '559 Patent has been and continues to be deliberate and willful, and, therefore, this is an exceptional case warranting an award of enhanced damages for up to three times the actual damages awarded and attorney's fees to USAA pursuant to 35 U.S.C. §§ 284-285. As noted above, PNC has had knowledge of the '559 Patent and its infringement thereof, and yet has deliberately continued to infringe in a wanton, malicious, and egregious manner, with reckless disregard for USAA's patent rights.

VII. THIRD CLAIM FOR RELIEF – '571 PATENT

75. USAA re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

76. The '571 Patent, entitled "Systems and methods for image monitoring of check during mobile deposit," was duly and legally issued on March 10, 2015. A true and correct copy of the '571 Patent is attached as Exhibit C.

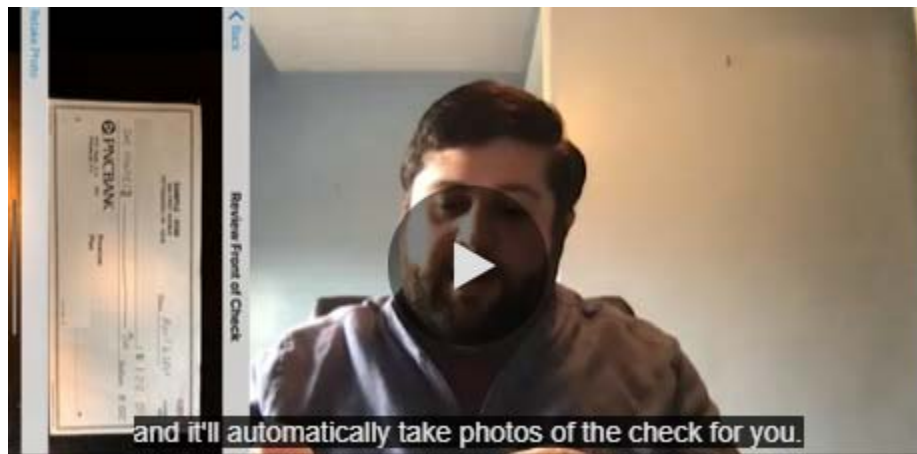
77. USAA owns by assignment the entire right, title, and interest in and to the '571 Patent, including the exclusive right to seek damages for past, current, and future infringement thereof.

78. USAA is informed and believes, and on this basis alleges, that PNC, agents of PNC, and/or third parties acting under PNC's direction and control, have committed and continue to commit acts of direct infringement of one or more claims of the '571 Patent literally and/or under the doctrine of equivalents, by making, using, selling, offering to sell and/or importing into the United States, PNC Mobile Deposit. Further, PNC controls the infringing system as a whole and obtains benefits from it.

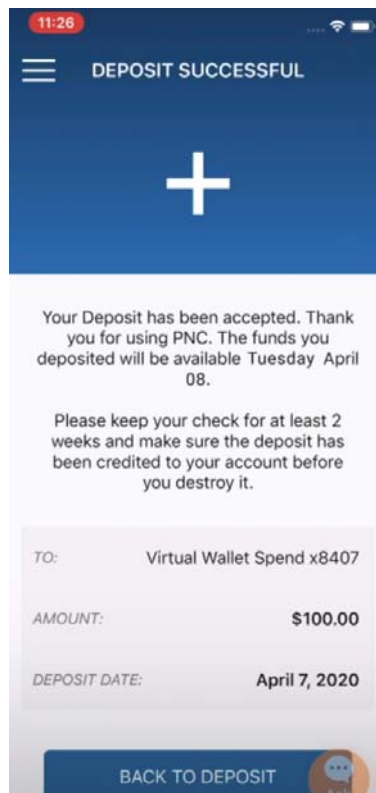
79. For example, PNC Mobile Deposit includes a software application installed on a mobile device, such as a customer's smartphone, comprising instructions that, when executed by

a processor, cause the processor to: monitor an image of the check in a field of view of a camera of a mobile device with respect to a monitoring criterion using an image monitoring and capture module of the mobile device; capture the image of the check with the camera when the image of the check passes the monitoring criterion. This is illustrated, for example, in PNC's marketing materials and the following illustrative images from its website:





80. As another example, PNC Mobile Deposit will provide the image of the check from the camera to a depository via a communication pathway between the mobile device and the depository. For example, PNC Mobile Deposit will provide a confirmation of successful deposit after a user clicks “Submit” to provide the image of the check to a depository.



81. PNC is inducing infringement of the '571 Patent, in violation of 35 U.S.C. § 271(b), including by knowingly encouraging or aiding third parties to make, use, sell or offer

to sell PNC Mobile Deposit in the United States, or to import PNC Mobile Deposit into the United States, and/or in violation of 35 U.S.C. § 271(f)(1), by supplying or causing to be supplied PNC Mobile Deposit in or from the United States, without license or authority from USAA, with knowledge of or willful blindness to the fact that PNC's actions will induce others to directly infringe the '571 Patent. PNC actively encourages, directs, and controls third parties, including its end users, to make and/or use PNC Mobile Deposit in an infringing manner, including through PNC's website, advertisements, documentation/instructional material, customer support, application and feature descriptions, and in-application instructions. PNC has intentionally aided and encouraged third parties, including its end users, to use PNC Mobile Deposit in the United States in a manner that it knows would infringe or have a high probability of infringing the '571 Patent, with the specific intent that those performing the acts infringe the '571 Patent.

82. PNC is contributorily infringing the '571 Patent in violation of 35 U.S.C. § 271(c), by selling, offering to sell, and/or importing into the United States, and/or in violation of 35 U.S.C. § 271(f)(2), by supplying or causing to be supplied in or from the United States, PNC Mobile Deposit for use in infringing the '571 Patent, constituting a material part of the invention, knowing PNC Mobile Deposit to be especially made or especially adapted for use in infringing the '571 Patent. PNC Mobile Deposit is not a staple article or commodity of commerce suitable for substantial non-infringing use.

83. As a result of PNC's infringement of the '571 Patent, USAA has been damaged. In addition, PNC's infringing acts and practices have caused and are causing immediate and irreparable harm to USAA. USAA is entitled to recover for damages sustained as a result of PNC's wrongful acts in an amount yet to be determined and to receive such other and further relief, including equitable relief, as this Court deems just and proper.

84. USAA is further informed, and on this basis alleges, that PNC's infringement of the '571 Patent has been and continues to be deliberate and willful, and, therefore, this is an exceptional case warranting an award of enhanced damages for up to three times the actual

damages awarded and attorney's fees to USAA pursuant to 35 U.S.C. §§ 284-285. As noted above, PNC has had knowledge of the '571 Patent and its infringement thereof, and yet has deliberately continued to infringe in a wanton, malicious, and egregious manner, with reckless disregard for USAA's patent rights.

VIII. FOURTH CLAIM FOR RELIEF – '779 PATENT

85. USAA re-alleges and incorporates by reference the allegations of the preceding paragraphs of this Complaint as if fully set forth herein.

86. The '779 Patent, entitled "Systems and methods for alignment of check during mobile deposit" was duly and legally issued on April 15, 2014. A true and correct copy of the '779 Patent is attached as Exhibit D.

87. USAA owns by assignment the entire right, title, and interest in and to the '779 Patent, including the exclusive right to seek damages for past, current, and future infringement thereof.

88. USAA is informed and believes, and on this basis alleges, that PNC, agents of PNC, and/or third parties acting under PNC's direction and control, have committed and continue to commit acts of direct infringement of one or more claims of the '779 Patent literally and/or under the doctrine of equivalents, by making, using, selling, offering to sell and/or importing into the United States, PNC Mobile Deposit. Further, PNC controls the infringing system as a whole and obtains benefits from it.

89. For example, PNC Mobile Deposit is a system for depositing checks, comprising a mobile device with a camera, a display, and a processor configured to project an alignment guide in the display of the mobile device which displays a field of view of the camera. This is illustrated, for example, in PNC's marketing materials and the following illustrative images from its website

Mobile Apps Directory

Check out PNC's mobile app offerings!

Enjoy the convenience of Online Banking from your mobile device with PNC Mobile Banking for FREE!

Download PNC Apps: [Apple®](#) | [Google Play](#) | [Amazon](#)

PERSONAL BANKING

PNC Mobile Banking

Get 24/7 access to your PNC Bank account, information and services. PNC Mobile Banking is a free service offered to all PNC Online Banking customers.



See How Easy it is to Deposit a Check with PNC Mobile Deposit



PNC customers deposit on average over 2 million checks per month^[2] using their mobile devices!

See how easily you can deposit a check right from your smartphone — quickly, conveniently, and securely with mobile deposit and our mobile banking apps.

With our standard funds availability, deposits completed before 10 p.m. ET on a business day will be available the next day at no charge^[3].

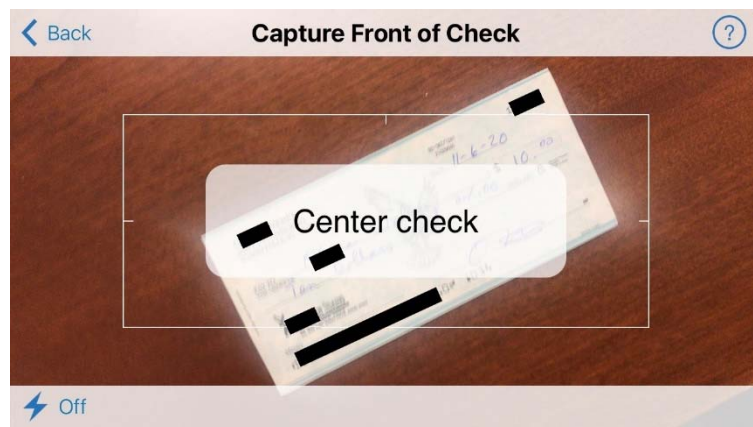
Mobile Deposit FAQs »

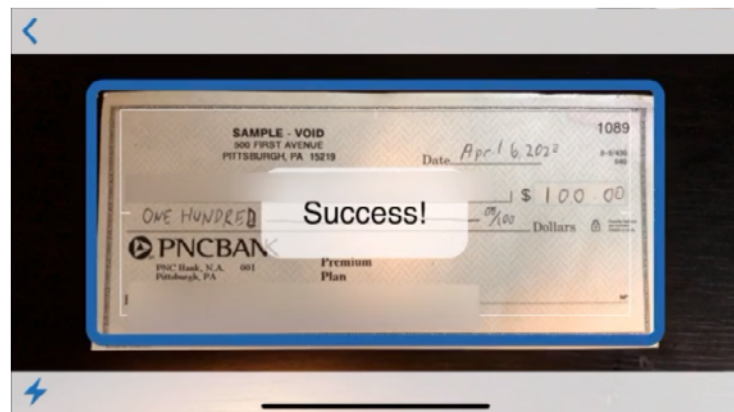
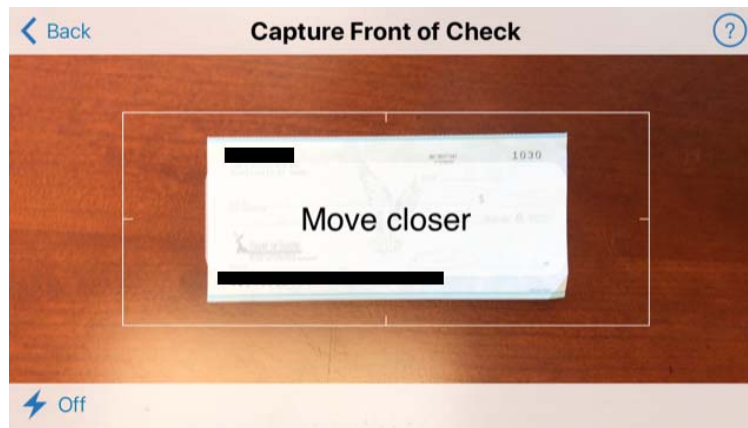
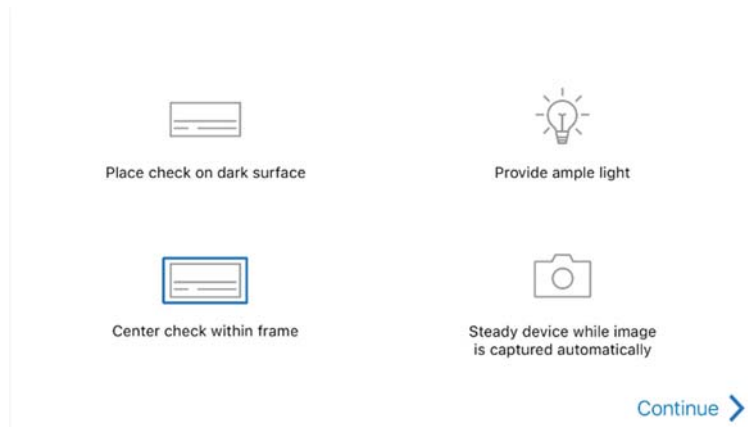
Explore additional mobile banking options »

Get started with online banking. Learn how »



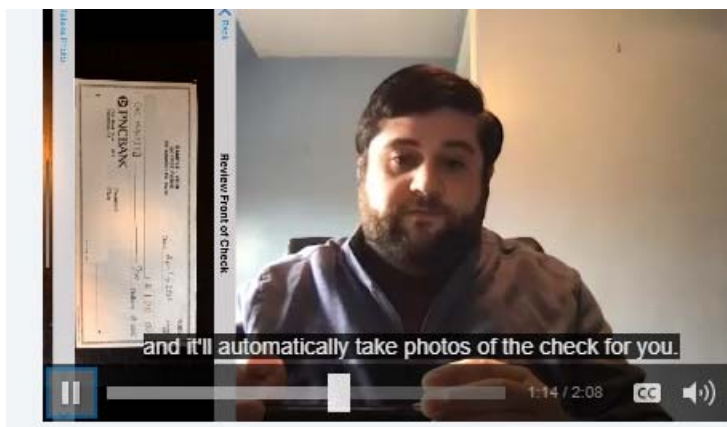
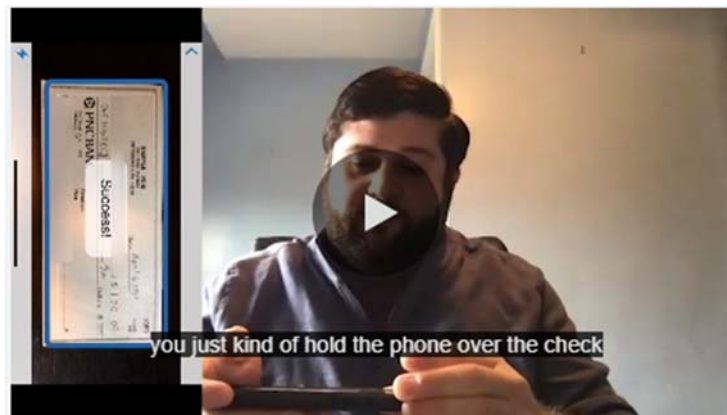
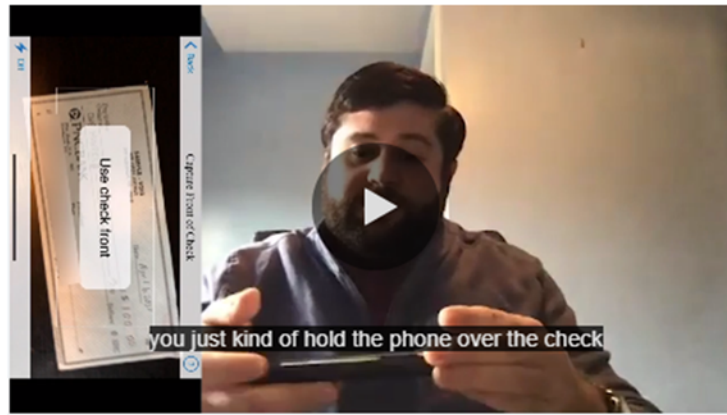
90. As another example, PNC Mobile Deposit monitors an image of a check that is within the camera's field of view and determines whether the image of the check aligns with the alignment guide. PNC Mobile Deposit provides instructions to users to assist with these steps, including, for example, to "Use check front," "Center check," and "Move closer." When the image of the check is determined to align with the alignment guide, PNC Mobile Deposit shows a "Success!" message.



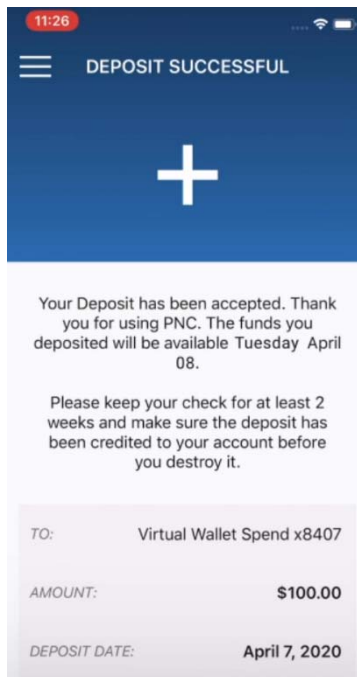


91. As another example, PNC Mobile Deposit automatically captures the image of the check when the image of the check is determined to align with the alignment guide, as described in the following excerpts from an instructional video provided on PNC's website:

See How Easy it is to Deposit a Check with PNC Mobile Deposit



92. As another example, PNC Mobile Deposit will transmit the captured image of the check from the camera to a depository via a communication pathway between the mobile device and the depository. For example, PNC Mobile Deposit will provide a confirmation of successful deposit after a user clicks “Submit” to provide the image of the check to a depository.



93. PNC also is inducing infringement of the '779 Patent, in violation of 35 U.S.C. § 271(b), including by knowingly encouraging or aiding third parties to make, use, sell or offer to sell PNC Mobile Deposit in the United States, or to import PNC Mobile Deposit into the United States, and/or in violation of 35 U.S.C. § 271(f)(1), by supplying or causing to be supplied PNC Mobile Deposit in or from the United States, without license or authority from USAA, with knowledge of or willful blindness to the fact that PNC's actions will induce others to directly infringe the '779 Patent. PNC actively encourages, directs, and controls third parties, including its end users, to make and/or use PNC Mobile Deposit in an infringing manner, including through PNC's website, advertisements, documentation/instructional material, customer support, application and feature descriptions, and in-application instructions. PNC has intentionally aided and encouraged third parties, including its end users, to use PNC Mobile Deposit in the United States in a manner that it knows would infringe or have a high probability of infringing the '779 Patent, with the specific intent that those performing the acts infringe the '779 Patent.

94. PNC is contributorily infringing the '779 Patent in violation of 35 U.S.C. § 271(c), by selling, offering to sell, and/or importing into the United States, and/or in violation of

35 U.S.C. § 271(f)(2), by supplying or causing to be supplied in or from the United States, PNC Mobile Deposit for use in infringing the '779 Patent, constituting a material part of the invention, knowing PNC Mobile Deposit to be especially made or especially adapted for use in infringing the '779 Patent. PNC Mobile Deposit is not a staple article or commodity of commerce suitable for substantial non-infringing use.

95. As a result of PNC's infringement of the '779 Patent, USAA has been damaged. In addition, PNC's infringing acts and practices have caused and are causing immediate and irreparable harm to USAA. USAA is entitled to recover for damages sustained as a result of PNC's wrongful acts in an amount yet to be determined and to receive such other and further relief, including equitable relief, as this Court deems just and proper.

96. USAA is further informed, and on this basis alleges, that PNC's infringement of the '779 Patent has been and continues to be deliberate and willful, and, therefore, this is an exceptional case warranting an award of enhanced damages for up to three times the actual damages awarded and attorney's fees to USAA pursuant to 35 U.S.C. §§ 284-285. As discussed above, PNC has had knowledge of the '779 Patent and its infringement thereof, and yet has deliberately continued to infringe in a wanton, malicious, and egregious manner, with reckless disregard for USAA's patent rights.

IX. PRAYER FOR RELIEF

WHEREFORE, USAA prays for judgment against PNC as follows:

- A. That PNC has infringed, and continue to infringe, each of the USAA Patents;
- B. That each claim of each of the USAA Patents is valid and enforceable;
- C. That PNC pay damages adequate to compensate USAA for its infringement, together with interest and costs under 35 U.S.C. § 284;
- D. That PNC be ordered to pay pre-judgment and post-judgment interest on the damages assessed;
- E. That PNC be ordered to pay supplemental damages to USAA, including interest, with an accounting, as needed, of all infringements and/or damages not presented at trial;

F. That PNC's infringement is willful and that the damages awarded to USAA should be enhanced up to three times the actual damages awarded;

G. That USAA be awarded damages for its costs, disbursements, expert witness fees, and attorneys' fees and costs incurred in prosecution this action, with interest, including damages for an exceptional case pursuant to 35 U.S.C. § 285 and as otherwise provided by law; and

H. That USAA be awarded such other and further relief, including any and all injunctive and other equitable relief, as this Court deems just and proper.

X. DEMAND FOR JURY TRIAL

97. Pursuant to Federal Rule of Civil Procedure 38(b), USAA hereby demands a trial by jury on all issues triable to a jury.

Dated: December 4, 2020

Respectfully submitted,

IRELL & MANELLA LLP

/s/ Lisa Glasser

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**Attorneys for Plaintiff United Services
Automobile Association (USAA)**

CERTIFICATE OF SERVICE

I hereby certify that, on December 4, 2020, a true and correct copy of the foregoing was served to all counsel of record via CM/ECF.

/s/ Lisa Glasser