504472880 07/25/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4519582

SUBMISSION TYPE:	NEW ASSIGNMENT	
NATURE OF CONVEYANCE:	ASSIGNMENT	

CONVEYING PARTY DATA

Name	Execution Date
JOSEPH BENJAMIN CASTINADO	07/11/2017
CHARLES RUSSELL KENDALL	07/13/2017
MARTHA SAIN MCCLELLAN	07/13/2017
LEE ANN PROUD	07/11/2017
AYEESHA SACHEDINA	07/17/2017
CALVIN WILLIAM TACKETT JR.	07/11/2017

RECEIVING PARTY DATA

Name:	BANK OF AMERICA CORPORATION
Street Address:	214 NORTH TRYON STREET
Internal Address:	MAILCODE: NC1-027-20-05
City:	CHARLOTTE
State/Country:	NORTH CAROLINA
Postal Code:	28255

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15659215

CORRESPONDENCE DATA

Fax Number: (704)339-5800

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 7043311000

Email: damionnenobles@mvalaw.com, iplaw@mvalaw.com,

bacdocket@mvalaw.com

Correspondent Name: MOORE & VAN ALLEN PLLC FOR BOFA

Address Line 1: 3015 CARRINGTON MILL BOULEVARD, STE 400

Address Line 2: POST OFFICE BOX 13706

Address Line 4: RESEARCH TRIANGLE PA, NORTH CAROLINA 27709

ATTORNEY DOCKET NUMBER:	7925US1.014033.3050
NAME OF SUBMITTER:	NICHOLAS C. RUSSELL
SIGNATURE:	/Nicholas C. Russell/

PATENT 504472880 REEL: 043093 FRAME: 0634

DATE SIGNED:	07/25/2017
	This document serves as an Oath/Declaration (37 CFR 1.63).
Total Attachments: 12	•
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source=7925US1-3050-Signatures	s#page2.tif
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PATENT REEL: 043093 FRAME: 0635

PMN: 7925US1

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	REAL-TIME PROCESSING DISTRIBUTED LEDGER SYSTEM	
As the below	named inventor, I hereby declare that:	
This declarati	△ The attached application, or	
	United States application or PCT international application number filed on	
The above-id	entified application was made or authorized to be made by me.	
I believe that	I am the original inventor or an original joint inventor of a claimed invention in the application.	
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.		
	ASSIGNMENT	
North Glenn, above applica assignment, I	Joseph Benjamin Castinado ("Assignor"), a citizen of The United States of America (Country), residing in Colorado (City, State/Province) have invented the above invention. If the following lines are blank, the ation was filed on even date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this I, an assignor below, hereby authorize the attorneys for Bank of America to insert the filing date and number below after they become known and prior to filing the recordation.	
	U.S. Application No, filed July 25, 2017	
of Delaware, entire right, t	ANK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State and having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent ated in the United States of America, and in any and all countries foreign thereto:	
salary or payl acknowledge and legal rep America and Letters Paten which such a and in and to reexaminatio trademarks v useful to mal official whose Assignee, or i	FORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including ment for the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby ed, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns resentatives, the full and exclusive right, title and interest for the territory of the United States of all countries foreign thereto, and throughout the world and in space, (including the right to apply for at in foreign countries in its own name and to claim any priority rights for such foreign applications to pplications are entitled under international conventions, treaties, or otherwise), in and to said inventions all applications and Letters Patent granted therefor, and all non-provisionals, divisionals, reissues, ons, reviews, continuations, continuation-in-parts and extensions thereof, and in and to all copyrights, with their associated goodwill, trade secrets, confidential information, and compilations, necessary or ke, use, or sell the inventions. I hereby authorize and request the Commissioner of Patents, and any e duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at	

the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all non-provisional, divisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

WARNING:

parposes are not retained in the application me and therefore	e are not pashery available.
LEGAL NAME OF INVENTOR	
Inventor: Joseph Benjamin Castinado	Date: <u>7/11/2017</u>
Signature: Januar B Castanda	

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	REAL-TIME PROCESSING DISTRIBUTED LEDGER SYSTEM		
As the below named inventor, I hereby declare that:			
This declarati		\boxtimes	The attached application, or
			United States application or PCT international application number filed on
The above-id	entifie	ed ap	plication was made or authorized to be made by me.
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.			
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.			
			ASSIGNMENT
WHEREAS, I,	Charle	es Ru	issell Kendall ("Assignor"), a citizen of The United States of America (Country), residing in

Snoqualmie, Washington (City, State/Province) have invented the above invention. If the following lines are blank, the above application was filed on even date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor below, hereby authorize the attorneys for Bank of America to insert the filing date and application number below after they become known and prior to filing the recordation.

WHEREAS, BANK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of Delaware, and having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:

NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or payment for the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, reviews, continuations, continuation-in-parts and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all non-provisional, divisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

WARNING:

parposes are not retained in the application me and therefore a	re not publicly available.
LEGAL NAME OF INVENTOR	
Inventor: CHARLES RUSSELL KENDALL	Date: <u>07/13/2017</u>
Signature:	

PMN: 7925US1

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN **APPLICATION DATA SHEET (37 CFR 1.76)**

Title of Invention	REAL-TIME PROCESSING DISTRIBUTED LEDGER SYSTEM		
As the below	named inventor, I hereby declare that:		
This declarat	N The attached application, or		
	☐ United States application or PCT international application number filed on		
The above-io	lentified application was made or authorized to be made by me.		
I believe tha	I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.		
	I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.		
	ASSIGNMENT		
WHEREAS, I, Martha Sain McClellan ("Assignor"), a citizen of The United States of America (Country), residing in Lancaster, South Carolina (City, State/Province) have invented the above invention. If the following lines are blank, the above application was filed on even date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor below, hereby authorize the attorneys for Bank of America to insert the filing date and application number below after they become known and prior to filing the recordation.			
	U.S. Application No. <u>15/659,215</u> filed <u>July 25, 2017</u> .		
of Delaware, entire right,	ANK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State and having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent need in the United States of America, and in any and all countries foreign thereto:		
salary or pay acknowledge and legal rep America and Letters Pater which such a and in and to reexamination	FORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including ment for the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby ed, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns presentatives, the full and exclusive right, title and interest for the territory of the United States of all countries foreign thereto, and throughout the world and in space, (including the right to apply for not in foreign countries in its own name and to claim any priority rights for such foreign applications to applications are entitled under international conventions, treaties, or otherwise), in and to said inventions all applications and Letters Patent granted therefor, and all non-provisionals, divisionals, reissues, ons, reviews, continuations, continuation-in-parts and extensions thereof, and in and to all copyrights, with their associated goodwill, trade secrets, confidential information, and compilations, necessary or		

[Page 1 of 2]

useful to make, use, or sell the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all non-provisional, divisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

WARNING:

purposes are not retained in the application life and therefore are not publicly available.		
LEGAL NAME OF INVENTOR		
Inventor: MARTHA SAIN MCCLELLAN	Date: <u>07/13/2017</u>	
Signature: Martha Sain McClellan		

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	REAL-TIME PROCESSING DISTRIBUTED LEDGER SYSTEM		
As the below	named inventor, I hereby declare that:		
This declarat	Ine attached application, or		
	☐ United States application or PCT international application number filed on		
The above-identified application was made or authorized to be made by me.			
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.			
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.			
	ASSIGNMENT		
WHEREAS, I, Lee Ann Proud ("Assignor"), a citizen of The United States of America (Country), residing in Ponte Vedra, Florida (City, State/Province) have invented the above invention. If the following lines are blank, the above application was filed on even date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor below, hereby authorize the attorneys for Bank of America to insert the filing date and application number below after they become known and prior to filing the recordation.			
	U.S. Application No		
WHEREAS, BANK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of Delaware, and having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:			
NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or payment for the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, reviews, continuations, continuation-in-parts and extensions thereof, and in and to all copyrights,			

[Page 1 of 2]

trademarks with their associated goodwill, trade secrets, confidential information, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts known to me regarding said inventions whenever requested, and that I will execute all non-provisional, divisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

WARNING:

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LEGAL NAME OF INVENTOR		
Inventor: LEE ANN PROUD	07/11/2017 Date:	
Signature:Lee Ann Proud		

PMN: 7925US1

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	REAL-TIME PROCESSING DISTRIBUTED LEDGER SYSTEM		
As the below	named inventor, I hereby declare that:		
	This declaration The attached application, or is directed to:		
	United States application or PCT international application numberfiled on		
The above-identified application was made or authorized to be made by me.			
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.			
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.			
	ASSIGNMENT		
WHEREAS, I, Ayeesha Sachedina ("Assignor"), a citizen of Canada (Country), residing in New York, New York (City, State/Province) have invented the above invention. If the following lines are blank, the above application was filed on even date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor below, hereby authorize the attorneys for Bank of America to insert the filing date and application number below after they become known and prior to filing the recordation.			
	U.S. Application No. <u>15/659,215</u> , filed <u>July 25, 2017</u> .		
WHEREAS, BANK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of Delaware, and having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:			
NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or payment for the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, reviews, continuations, continuation-in-parts and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts			

known to me regarding said inventions whenever requested, and that I will execute all non-provisional, divisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Ayeesha Sachedina

Signature:

[Page 2 of 2]

PMN: 7925US1

COMBINED DECLARATION (37 CFR 1.63) AND ASSIGNMENT FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

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Title of Invention	REAL-TIME PROCESSING DISTRIBUTED LEDGER SYSTEM		
As the below	named inventor, I hereby declare that:		
	This declaration The attached application, or is directed to:		
	United States application or PCT international application number		
The above-identified application was made or authorized to be made by me.			
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.			
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.			
	ASSIGNMENT		
WHEREAS, I, Calvin William Tackett, Jr. ("Assignor"), a citizen of The United States of America (Country), residing in Rowlett, Texas (City, State/Province) have invented the above invention. If the following lines are blank, the above application was filed on even date herewith, otherwise, to comply with 37 C.F.R. §3.21 for recordal of this assignment, I, an assignor below, hereby authorize the attorneys for Bank of America to insert the filing date and application number below after they become known and prior to filing the recordation.			
	U.S. Application No. <u>15/659,215</u> , filed <u>July 25, 2017</u> .		
WHEREAS, BANK OF AMERICA CORPORATION ("Assignee"), a Corporation duly organized under the laws of the State of Delaware, and having its offices and place of business at Charlotte, North Carolina, is desirous of acquiring the entire right, title and interest in and to the aforesaid inventions and in and to all applications and Letters Patent therefor granted in the United States of America, and in any and all countries foreign thereto:			
NOW, THEREFORE, TO WHOM IT MAY CONCERN, be it known that, for good and valuable consideration, including salary or payment for the making of inventions, or employee benefits, the receipt and sufficiency of which is hereby acknowledged, I said Assignor, by these presents do sell, assign and transfer unto said Assignee, its successors, assigns and legal representatives, the full and exclusive right, title and interest for the territory of the United States of America and all countries foreign thereto, and throughout the world and in space, (including the right to apply for Letters Patent in foreign countries in its own name and to claim any priority rights for such foreign applications to which such applications are entitled under international conventions, treaties, or otherwise), in and to said inventions and in and to all applications and Letters Patent granted therefor, and all non-provisionals, divisionals, reissues, reexaminations, reviews, continuations, continuation-in-parts and extensions thereof, and in and to all copyrights, trademarks with their associated goodwill, trade secrets, confidential information, and compilations, necessary or useful to make, use, or sell the inventions. I hereby authorize and request the Commissioner of Patents, and any official whose duty it is to issue patents, to issue all Letters Patent on said inventions or resulting therefrom to said Assignee, or its successors and assigns, as assignee of the entire right, title and interest. I represent and warrant that I have full right to agree to, execute, and deliver this assignment. I agree that I will without further consideration, but at the expense of Assignee, communicate to said Assignee, or its successors, assigns, or nominees, any and all facts			

known to me regarding said inventions whenever requested, and that I will execute all non-provisional, divisional, reissue, reexamination, continuation and continuation-in-part applications, testify in any legal proceedings, sign all lawful papers, make all rightful oaths, and generally do everything reasonable for said Assignee, its successors, assigns, and nominees, to obtain and enforce proper patent protection for said inventions in all countries.

WARNING:

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LEGAL NAME OF INVENTOR		
Inventor: CALVIN WILLIAM TACKETT, JR.	Date:	
Signature: Calvin Tastett, Jr.		