in a mortgage loan transaction is depicted in which a borrower workstation 630 is provided including various components similar to the components required for the electronic check or financial transaction. The lender workstation 632 is similarly configured. Software for preparation and manipulation of loan applications are also located on the workstations 630 and 632.

Referring to FIG. 26, the transmission of a medical record 520 is depicted wherein a first doctor 462 signs the medical record or a portion thereof 520 with the first doctor's secure authenticator 566 which permits a digital signature of the medical record 520. The signature may then be recorded in a database 570 which is responsive to the first doctor's secure authenticator. Once signed, the medical record 520 may be transmitted to a third party or to a second doctor 464. The second doctor may add material including a signature using the second doctor's secure authenticator 568. The second doctor's database 572 will record the signature and the additional information. Once signed by one or more doctors, the medical record 520 may be sent by a network 574 through a network connection 576 to a proprietary system 578 of one or more third parties 468, which could include an insurance company an administrative, or the like. Signatures, authentication, data manipulations, storage and retrieval, and other functions are accomplished in a manner similar to that used for the electronic check.

Referring to FIG. 29, the hardware required for a medical record transaction or transmission is provided in which a first doctor workstation 660 and a second doctor workstation 662 are provided. The workstations are similarly configured to the workstations necessary for

other transactions of the present invention, such as an electronic check transaction, or the execution of a contract. Software residing on the workstations 660 and 662 may include applications for creating and manipulating medical records, including wage processing software.

The many features and advantages of the present invention are apparent from the written description and appendices. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation as illustrated and described. Hence, all suitable modifications and equivalents may be resorted to as falling within the scope of the invention.

Introduction

FSML, the Financial Services Markup Language, is an SGML[1] mark-up language designed to allow the creation of electronic financial documents.

FSML can be used for several applications. One is to create, and sign generic financial (or even non-financial) documents. Another, more specific application, is to create, and process Electronic Checks, and their associated documents. One chapter will describe the use of FSML for generic documents. Later chapters will describe FSML when used to create and process Electronic Checks and associated documents.

FSML Documents may be signed. This signing, using public key cryptographic signature and hash algorithms, provides a method of ensuring that documents have the following security attributes:

Authentication	A document recipient can authenticate that the document was created by a specific person, or institution, and was not forged or created by an imposter.
Integrity	A document recipient can determine that the document was not changed or corrupted in any way since it was created by the originator.
Non-repudiation	A document recipient can prove that a document was definitely created by the originator even if the originator "repudiates" the document, claiming that someone else created it using their name.

The FSML signature mechanism also allows documents to be combined, or added to, without loss of these security features.

An FSML Electronic Financial Document is comprised of a number of blocks, as defined in the FSML definitions below. Each block contains some common fields, or elements in SGML terminology, and also contains fields that are specific to the type of block.

All blocks that must be protected from tampering, and all blocks that must be authenticated are signed using a digital signature, which is contained in a signature block. The digital signature uses one of the standard digital signature algorithms, such as MD5/RSA[2][3] or SHA/DSS[4][5], although the use of MD5 is deprecated. Each signature requires a public key, which also requires a certificate. Certificates are distributed as X.509 Version 1 certificates[6].

Blocks may also be "bound" together by the signature block, which contains the block names of the blocks being bound, the digital hashes of these blocks, and a digital signature on these hashes along with the other contents of the signature block. This binding allows the receiving software to verify that all the blocks that were bound are present and have not been tampered with.

The concept of the FSML Electronic Document is that it is a flexible structure. Separating signatures, certificates, actual data, etc. into separate blocks allows a rich, complex document to be built from these "primitives," while retaining a standard format which can be parsed and verified according to a standard syntax definition.

Notation

In the pseudo-SGML definitions below, an attempt is being made to show examples of the SGML format for FSML electronic documents, rather than to use formal meta-linguistic notations to define them. A more accurate definition is later in the document using more formal notations (Extended BNF[7][8] and SGML DTD[1]).

In these definitions, the following simple notations are used to indicate the type of value being used for a particular field.

ccccccccc	This is used to represent a character string. The number of c's in the definition does not indicate the allowed size of the string. Character strings may contain any legal SGML character, except the tag delimiters (< or >) and the other SGML formatting characters. These characters may be inserted into the string using the standard SGML escaping sequences. Country or language-specific characters may also be used, again using the standard SGML escape sequences[1]. Character strings need not be enclosed in quote symbols, unless a trailing blank is desired in a character string.
nnnnn	An ASCII character string used to denote an integer number, containing only the digits 0 - 9. The number of n's does not indicate the size of the number string. This is described elsewhere.
nnnnn.nn	An ASCII character string used to denote a decimal (real) number, containing only the digits 0 - 9 and a single, optional decimal point.
hhhhhh	An ASCII character string used to denote the hexadecimal encoding on a binary string of octets. It may only contain the ASCII characters 0-9, A-F, and a-f. The number of h's does not indicate the size of the string.
OTHER	An UPPERCASE string as a value represents itself.

Document Formatting Rules

In order for the FSML Electronic document to be easily transmitted by a variety of methods (E-mail, file transfer, storage media, etc.) it was designed to be a plain ASCII document. However certain formatting rules should be adhered to in order to ensure that most of the usual transport mechanisms, in particular E-mail systems[9], will successfully transport the FSML Electronic document unchanged.

Note that these rules supersede the white space and line end rules for SGML, in order to ensure that signed documents can be successfully verified.

The rules are as follows:

1. All characters in the document should be chosen from the ASCII subset known as printable characters (ASCII values 0x20-0x7E), except for line-ends (see below). Any characters found in the document that are not in this set (0x00-0x09,0x0B, 0x0C, 0x0E-0xE-0x1F, 0x7F-0xFF) are to be ignored. This means that they may be removed before the document is processed.

2. If a character is required that is not displayable as one of the above ASCII printable characters, it should be encoded in the document using an SGML entity name for the character[1], enclosed between an ampersand and a semicolon, e.g. &circumflex;. Note that these SGML entities will not be translated during the processing and cryptographic hashing of an FSML Electronic Document. They are only used for the purpose of display or printing of characters not in the usual ASCII subset.

3. All lines in the document must be less than or equal to 76 characters in length. When it is necessary to continue information on a line past 76 characters, a line-end sequence may be inserted. A line-end sequence consists of either a

Carriage Return (ASCII 0x0D) or Line-Feed (ASCII 0x0A) or both. These sequences are usually Operating System specific and will probably be changed by various transport mechanisms. For this reason all line-end sequences will be removed before any processing is done on the FSML Electronic document.

4. Line-end sequences may be inserted at any point in the document, as they will be removed before processing, except if the characters preceding the line-end sequence are spaces (ASCII 0x20). Any spaces at the end of a line will also be removed prior to processing the document, so if trailing spaces are required, they should be placed in quotes (ASCII 0x22).

5. Embedded spaces, i.e. spaces that are not immediately before a line-end are to be processed as is, i.e. they are not to be removed before processing, hashing, etc.

6. Leading spaces, e.g. indentation, are allowed but not recommended, as leading spaces are not deleted from processing, and as line-ends are removed, the leading spaces on a line will

be indistinguishable from the data ending the previous line, and thus may cause field length violations or field data misinterpretation. For example:

<tag1>abcde
<tag2>defghi

would cause the value of tag1 to be 'abcde

Generic FSML

4.1 Generic Electronic Document Definition

The definition begins with an FSML electronic document.

Every FSML electronic document consists of one or more enclosed documents. These documents are nested, with the nesting done by enclosing earlier forms of a document inside later additions to the document. Each enclosed document is built inside a <fstc-doc> tag structure.

```
<fstc-doc docname"cccccccc" doctype="cccccccc">
        a sequence of one or more blocks and/or nested <fstc-doc> documents
</fstc-doc>
```

Figure 4.1: Document element definition

The docname= attribute parameter is a document name, assigned by the software creating the document. This name will be used when combining documents. (See Combining Documents, below). If multiple FSML documents are being created at one time, as part of one file or transmission, the creating software should ensure that the document names are unique, within the file or transmission. Note: Attribute parameters must be enclosed in quotes.

The doctype= attribute parameter is a document type, used to specify the type of document. This type is used by the receiving software to ensure that it has received the correct type of document, i.e. one that it knows how to process. The document types are chosen from a list of pre-defined types, or may be types agreed upon by the sending and receiving parties, except that the latter agreed-upon types may not conflict with any pre-defined types. Note: Attribute parameters must be enclosed in quotes.

To prevent such conflict between pre-defined, standardized document types, and privately agreed-upon types, all privately agreed-upon document types should be prefixed with the characters "p-" (meaning private). For example, a document type used for auto-loan applications, agreed to be used by a pair or small group of cooperating banks, could be written as doctype="p-autoloan". All pre-defined document types will be guaranteed not to start with the characters "p-".

4.2 Generic Block Common Field Definitions

A block contains some common fields, along with other fields specific to the type of block. Except in a few cases and unless otherwise specified, the order of fields within a block is not predefined. Once created, however, fields may not be moved or rearranged inside a block, to permit the digital signatures and hashes to be valid.

Common Block Field Definitions

Each of the blocks contains some field definitions which are common to all block types, as follows:

```
<blkname>ccccccc
<crit> TRUE|FALSE
<vers>nnn.nnn
```

Figure 4.2: Elements common to all blocks

blkname (required) This is a character string which must contain a block name assigned at the time the document is created. The creating software must ensure that the block names are unique within a document. The names are used to refer to the block from other blocks.

crit (optional) A boolean (TRUE/FALSE) flag used to determine if a block is critical. If a block is critical, then the receiving software must be able to process the block. If the software cannot process a critical block, it must abort processing the entire document, or otherwise determine how to handle the document as an exceptional case. This flag is used to allow for expansion of the block types, to allow software to "ignore" block types that it doesn't recognize, providing that they are marked non-critical by the software that created them. Certain types of blocks, such as informational messages, etc.

might always be considered non-critical. Other types, such as signatures, might always be considered critical. The criticality flag is assumed to have a default of TRUE unless otherwise specified as FALSE. Thus, it is not required to be specified in every block.

vers (optional) A number which indicates the Version of the block. New versions may be introduced, and this number is used by receiving software to determine if it is capable of parsing/processing a block. If the version number is larger than the one understood by the receiving software, it must assume that it cannot process the block, and must use the criticality flag to determine if it can continue to process the document. If the version number is not specified, it is assumed to be 1.0.

4.3 Generic Block Definitions

Each Generic FSML block starts and ends with one of the following sets of block tags:

Start Tag	End Tag
<action>	</action>
<signature>	</signature>
<cert>	</cert>
<attachment>	</attachment>
<message>	</message>

Figure 4.3: List of generic block elements

The block types are defined as follows:

action	A block describing the action to be performed by the recipient
signature	A block with the signatures and hashes of other blocks
cert	A public key certificate
attachment	An associated document attached to an FSML document
message	An informational message, such as an error report

4.3.1 Generic Action Block Definition

This block contains information about the action to be performed by the recipient of the Electronic Document.

```
<action>
  <blkname>cccccccc
  <crit>TRUE
  <vers>1.0
  <function>cccccccc
  <reason>cccccccc
</action>
```

Figure 4.4: Action block element definition

Action Block Field Definitions

Function (required) The function field contains a character string chosen from a set of commands or verbs specific to the application or type of document being sent. Each application, or type of document will have a unique set of allowable functions that are supported. (see E-check specific Action block definition below).

reason (required) The reason field indicates the reason that the document is being transmitted to the recipient. It must be one of the following character strings.

PROCESS	This indicates that the document is an original being sent to the recipient for normal processing.
RESEND	This indicates that the document is a possible duplicate being resent to the recipient. It should only be processed if it is not a duplicate at the receiver.
TEST	This indicates that the document is being sent as a test, and should not be fully processed (i.e. it should not transfer funds).
INFO	This indicates that the document is being sent for informational purposes only (e.g. as part of the text of an email message) and is not to be processed.
RETURN	This indicates that the document is being sent back to the originator as a returned item. The document will usually contain a <message> block indicating the reason for the return.

4.3.2 Generic Signature Block Definition

This block contains a digital signature for another block, or set of blocks. It is required whenever a block must be authenticated, or tamper-proofed. It also contains the reference to the certificate block containing the public key used to verify the signature. It is also used to "bind" multiple blocks together, so that the resulting compound document can be verified.

Unless otherwise specified, the data being signed consists of the entire contents of the subject block, which is defined to be everything between the start and the end tags for the block. The signature must include the blockname, criticality, and version fields, if present, as well as the contents of the block.

The actual hashes of the signed blocks are included to allow verification of the binding even if the actual contents of the bound blocks is not available.

```
<signature>
  <blkname>cccccccc
  <crit>TRUE
  <vers>1.0
  <sigdata>
    <blockref>cccccccc
    <hash alg="SHA">hhhhhh
        . . .
    <blockref>cccccccc
    <hash alg="SHA">hhhhhh
    <nonce>nnnnn
    <sigref>cccccccc
    <certissuer>cccccccc
    <certserial>nnnnnnnn
    <algorithm>SHA/RSA
    <timestamp>cccccccc
    <location>cccccccc
    <username>cccccc
    <useraddr>cccccc
    <userphone>cccccc
    <usermail>cccccc
    <useridnum>cccccc
    <userotherid>cccccc
  </sigdata>
  <sig>hhhhhhhh
  </signature>
```

Figure 4.5: Generic Signature block element definition

Generic Signature Block Field Definitions

blockref (required) The signature block contains one or more <blockref> fields, each of which contains the unique block name of the associated block being signed. All of the block references must appear immediately before their respective hashes (see below). The <blockref> and <hash> pairs may be repeated multiple times to sign multiple blocks.

hash	(required) This field contains the actual hash of the respective block. Each <hash> start tag may have an attribute parameter which specifies the algorithm used to perform the hash. The currently allowed parameters are MD5[2] or SHA[4]. If not specified, the value will default to SHA. The use of MD5 is deprecated. Other hash algorithms may be supported in future. Note: Attribute parameters must be enclosed in quotes.
nonce	(required) This is a nonce, or one-time random number, used to "salt" the hashed data to discourage cryptanalysis attacks. See the section below on Signature Calculations.

sigref	(optional) This is the block name of the <cert> block which contains the public key that can be used to verify the signature. This field, although optional, is only optional when an agreement is in place indicating that the recipient of the document does not need the certificate in order to process the document.
certissuer	(optional) This field contains the unique distinguished name of the issuer of the certificate[6]. It should only be specified if the <cert> blocks are not being sent with this document.
certserial	(optional) This field contains the unique certificate serial number assigned by the issuer of the certificate. It should only be specified if the <cert> blocks are not being sent with this document.
algorithm	(required) This string indicates the algorithm used to sign the signature block. It may be MD5/RSA[3] or SHA/DSA[5] or SHA/RSA. Note: Implementors of code that is used to sign FSML Electronic Documents may choose to support only one of the above three possible signing algorithms. Implementors of code that is used to verify FSML Electronic Documents must support all three algorithms. This ensures interoperablity. The use of MD5 is deprecated.
timestamp	(optional) This field specifies the time that the document was signed. It must be in Universal time[10] (i.e. GMT) specified as CCYYMMDDThhmmssZ, where the T and Z are literal characters, and where "CC" is the century (currently 19, soon 20), "YY" is the year, "MM" is the month, "DD" is the day, "hh" is the hour, "mm" is the minute and "ss" is the second.
username	(optional) This is an identification string containing the certificate users name. It is optionally inserted into the document by the electronic hardware token.

This field, and the five following fields are optional identification data. This data is supplied by the electronic token owner to the token issuer at the time the token is initialized, but it is not certified to be correct or accurate by the token issuer. The data is inserted into the electronic token when the token is initialized, and may also be corrected or updated later by the issuer using administrative token functions and passwords.

This data is then inserted, under control of the user, into the document by the electronic token, however the data cannot be changed or deleted by the user once the document is created. The user may select, when writing a document, which of the six identification fields are to be inserted into the document, in any combination, or may select none of them.

useraddr (optional) This is an identification string containing the certificate users address. It is optionally inserted into the document by the Electronic hardware token.

userphone (optional) This is an identification string containing the certificate users phone number. It is optionally inserted into the document by the Electronic hardware token.

useremail (optional) This is an identification string containing the certificate users email address. It is optionally inserted into the document by the Electronic hardware token.

useridnum (optional) This is an identification string containing the certificate users identification number. It is optionally inserted into the document by the Electronic hardware token.

userotherid (optional) This is an identification string containing any user identification the user wishes (e.g. company name). It is optionally inserted into the document by the Electronic hardware token.

location (optional) This field specifies location/country where the document was signed.

sig (required) This is a hexadecimal encoding of the actual signature data.

Signature Calculation

The calculation of the Signature is performed as follows ...

1. The <nonce> value is created as a random number.

2. The <nonce> value is logically prepended to the subject block contents before hashing. This includes the tag string "<nonce>", e.g. if the nonce value is 12345, the characters <nonce>12345 are logically prepended to the subject block before hashing.

3. The hash is calculated using the contents of the subject block, (with the <nonce> prepended) excluding the block start tag and block end tag, but including all characters in between, with the exception of all carriage returns, line feeds, and trailing spaces on a line. Leading and embedded spaces in a line are included in the hash. SGML entities (i.e. character names enclosed between an ampersand and a semicolon) are left untranslated when hashing.

4. The resulting hash value is inserted into the <hash> entry (as Hex ASCII) in the signature block.

5. Steps 2 through 4 are repeated for each block to be signed.

6. A second hash calculation is performed on the contents of the <sigdata> sub-block, which contains the previously calculated hashes, their block references, and the <nonce>. This should include all characters between the <sigdata> tag and the </sigdata> tag, again omitting all carriage returns, line feeds, and trailing spaces. This second hash is then encrypted using the private key. The result is the signature which is inserted (as Hex ASCII) into the signature block as the value for the <sig> tag.

4.3.3 Generic Certificate Block Definition

This block contains an encoded X.509 certificate [(6)].

```
<cert>
        <blkname>cccccccc
        <crit>TRUE
        <vers>1.0
        <certtype>X509v1
        <certissuer>cccccccc
        <certserial>nnnnnnnn
        <certdata>hhhhhhhh
</cert>
```

Figure 4.6: Generic Certificate block element definition

Generic Certificate Block Field Definitions

certtype (required) This field indicates the type of certificate contained in the block. The possible values are X509v1 or possibly X509v3 (to be determined).

certissuer (required) This field contains the unique distinguished name of the issuer of the certificate.

certserial (required) This field contains the unique certificate serial number assigned by the issuer of the certificate.

certdata (required) This contains the hexadecimal-encoded binary value of the ASN.1DER[11][12] encoded X.509 certificate.

4.3.4 Generic Attachment Block Definition

This block contains any document that is to be attached to the FSML Electronic Document (e.g. a Remittance notice, Contract, etc.).

```
<attachment>
        <blkname>cccccccc
        <adata>
        . . .
        </adata>
        </attachment>
```

Figure 4.7: Generic Attachment block definition

Any data may be contained in the Attachment block, between the <adata> and </adata> tags. The data must follow the rules for SGML documents and also follow the formatting rules for FSML Electronic Documents. If the data is binary, i.e. not expressible as ASCII text, it must be encoded using the BASE64 encoding mechanism[9] and must be contained in lines less than 76 characters in length.

4.3.5 Generic Message Block Definition

This block contains error messages and return information that indicates the reason that the attached FSML Document was not processed successfully or it may contain other information about the attached document.

```
<message>
        <blkname>cccccccc
        <crit>TRUE
        <vers>1.0
        <retcode>cccccccc
        <msgtext>ccccccccccccc
        <msgdata>
        . . .
</message>
```

Figure 4.8: Generic Message block element definition

Generic Message Block Field Definitions

retcode (required) This field contains a return code indicating the reason why the attached document was returned.

msgtext (required) This field contains a textual message explaining why the document was returned.

msgdata (optional) This field contains any other data that may be associated with the message, e.g. a report or bank statement.

Combining Documents

As an FSML Electronic Document passes through the various steps and institutions that are part of the entire system that processes the document, new information may be added to the document. To allow the new information to be added, while still allowing the original information to be protected and verified using digital signatures, a document combining mechanism is defined.

To add new information to a document, the existing document is enclosed in a <fstc-doc> tag structure, which may also enclose new blocks containing the new information. New <signature> Blocks may also be contained in the new information and may sign blocks in the inner nested documents. Each new, surrounding <fstc-doc> must also have a new <action> block, and DOCTYPE parameter, and the <action> block and DOCTYPE belonging to the outermost <fstc-doc> are used by the receiving system to determine the method used to process the modified document.

When combining original FSML documents into a larger, compound document (e.g. Deposit Slip), the names of the original blocks may not be unique. A document combining process must be used to handle naming conflicts when a number of documents are being combined (i.e. embedded) into a new document.

The document combining process is as follows:

1. All of the original <fstc-doc> elements are enclosed in a single new <fstc-doc> element. The original docname attribute parameters are kept with the same contents, unless all of the combined document names are not unique. If they are not unique, new, unique names should be assigned by the combining software.

2. Any time a block name reference is required to refer to a block which is not the same <fstc-doc> as the one containing the reference (i.e. inter-document references) then the

reference consists of the DOCNAME of the <fstc-doc> element concatenated with a period " " and then with the <blkname> of the inner block being referred to.

This is extended if the nesting is continued to more than two levels, e.g. 'outerdoc.innerdoc.block'.

As an example:

If there are two original documents:

```
<fstc-doc docname="doc1">
  <attachment>
     <blkname>block1
     . . . .
  </attachment>
</fstc-doc>

<fstc-doc docname="doc2">
  <attachment>
     <blkname>block1
     . . . .
  </attachment>
</fstc-doc>
```

Figure 5.9: Example of combining documents - before

When they are combined, the result is:

```
<fstc-doc docname="newdoc">

  <fstc-doc docname="doc1">
    <attachment>
       <blkname>block1
      . . .
    </attachment>
</fstc-doc>

<fstc-doc docname="doc2">
  <attachment>
     <blkname>block1
     . . .
  </attachment>
</fstc-doc>

<signature>
<blockref>doc1.block1
. . .
<blockref>doc2.block1
. . .
</signature>

</fstc-doc>
```

Figure 5.10: Example of combining documents - after

Any external references to the <attachment> block in the first document would be 'doc1.block1', and the <attachment> block in the second document would be 'doc2.block1'. References inside

doc1 to any blocks would still use the original, single level names. Similarly for internal references inside doc2.

This is extended if the nesting is continued to more than two levels, e.g. 'outerdoc.innerdoc.block'.

E-CHECK SPECIFIC FSML

This chapter describes the use of FSML for Electronic Checks and associated documents. All of the Generic FSML formats and rules are applicable, except that new block types are added, and certain blocks have additional fields (e.g. signature blocks).

6.1 Electronic Check DOCTYPE Definitions

The DOCTYPE parameter in the <fstc-doc> tag must be one of the following values for a E-Check or related document ...

CHECK	This indicates that the document is a signed electronic check, which is usable as a payment.
ENDCHECK	This indicates that the document is a signed, endorsed check, which is usable as a payment to a third party.
CERTCHECK	This indicates that the document is a signed, certified check, which is usable as a payment, and contains bank certification information certfying that the funds are available and held.
DEPOSIT	This indicates that the document is a group of one or more endorsed, signed electronic checks, combined with one or more deposit slips, intended as a deposit.
RETURN	This indicates that the document is a deposit item being returned by the bank for some reason. It will contain a <message> block indicating the reason for the return.

6.2 Electronic Check Document Global Structure

6.2.1 BNF Structure of FSML Electronic Check Documents

The following is an Extended BNF[7][8] description of the global block structure of FSML E-Check Electronic Documents.

BNF Meta-Notation

The meta-symbols of BNF are:

::=	meaning "is defined as"
|	meaning "or"
[ ]	used to enclose optional items
{ }	used to enclose repeated items (repeated zero or more times)
< >	used to enclose specific FSML tags.
<()>	used to specify FSML blocks.

Names not enclosed in any of the above bracket symbols are called *nonterminals* and are used to define symbols internal to the BNF specification only.

Note: Blocks are not required to be in the exact order specified below, except that the <action> block must always appear as the first block in any <fstc-doc>.

Subgroup BNF definitions

First, some lower-level nonterminal definitions of signature groups, which contain <signature> blocks and their associated <account> and <cert> blocks.

acct_sig_group	::=	<(signature)> [<(account)> <(cert)>]
cert_sig_group	::=	<(signature)> [<(cert)>]
bank_sig_group	::=	<(signature)> [<(cert)>]
tell_sig_group	::=	<(signature)> [<(account)> <(cert)>]

The acct_sig_group includes the <signature>, <account>, and <cert> blocks for a user signature that requires an account, e.g. check signer, depositor.

The cert_sig_group includes the <signature>, and <cert> blocks for a user signature that does not require an account, e.g. check endorser, or Generic FSML document.

The bank_sig_group includes the <signature> and <cert> blocks used by the bank to sign the users account and certificate, or a returned item, or some other document signed by the Bank.

The tell_sig_group includes the <signature>, <account>, and <cert> blocks for a teller's or bank officer's signature that requires an account, e.g. certified check.

Signed Electronic Check BNF definitions

signed_echeck_doc ::= <fstc-doc doctype="check">
<(action)>
<(check)>
acct_sig_group bank_sig_group
{<(attachment)>}
[<(invoice)>]
</fstc-doc>

multiply_signed_echeck_doc ::= <fstc-doc doctype="check">
<(action)>
acct_sig_group bank_sig_group
signed_echeck_doc | multiply_signed_echeck_doc
</fstc-doc>

Certified, Signed Electronic Check BNF definitions

certified_echeck_doc ::= <fstc-doc doctype="certcheck">
<(action)>
<(certification)> tell_sig_group bank_sig_group
signed_echeck_doc | multiply_signed_echeck_doc
</fstc-doc>

Endorsed, Signed Electronic Check BNF definitions

check_doc_list ::= signed_echeck_doc | multiply_signed_echeck_doc|
certified_echeck_doc

endorsed_echeck)_doc ::= <fstc-doc doctype="endcheck">
<(action)>
<(endorsement)> cert_sig_group bank_sig_group
check_doc_list
</fstc-doc>

multiply_endorsed_echeck_doc ::= <fstc-doc doctype="endcheck">
<(action)>
<(endorsement)> cert_sig_group bank_sig_group
endorsed_echeck_doc | multiply_ensorsed_echeck_doc
</fstc-doc>

Deposited Electronic Check BNF definitions

```
endorsed_doc_list ::=-      endorsed_check_doc | multiply_endorsed_echeck_doc
deposit_group_doc ::=       <fstc-doc doctype="deposit">
                            <(action)>
                            <(deposit)>
                          { <(deposit)>   }
                            acct_sig_group [bank_sig_group]
                          { acct_sig_group [bank_sig_group] }
                            endorsed_doc_list
                          { endorsed_doc_list  }
                            </fstc-doc)
```

Note: The acct_sig_group is repeated if multiple deposit slips for multiple accounts are being used. If all deposit slips are for the same account, only one acct_sig_group is present.

Returned Electronic Check BNF definitions

```
returned_item_doc ::=       <ftsc-doc doctype="return"?
                            <(action)>
                            <(message)> bank_sig_group
                            deposit_group_doc | endorsed_doc_list | check_doc_list
                          { bankstamp  }
                            </ftsc-doc>
```

Note: The bank_sig_group is used here by the bank to sign the message, and possibly the bankstamp blocks. It contains a different certificate than the one used by the bank to sign users accounts and certificate blocks.

6.2.2 Global Structure - Signed Electronic Check

Global Block Structure Detail - Signed Electronic Check				
Blocks	Block No.	Block References and Contents	Block No.	Block Function
<action>	C1	PAYMENT/PROCESS		
<check>	C2			
<signature>	C3	hash of <action>	C1	signer's signature
		hasch of <check>	C2	
		hash of signer's <account>	C4	
		hashes of any <attachments>	C6	
		hash of any <invoice>		
		reference to <account>	C4	
<account>	C4	issuer/serial of <cert>	C5	signer's account block
<cert>	C5			signer's certificate
<attachment>	C6			attachments, invoice
<signature>	C7	hash of signer's <account> block	C4	bank's signature
		hash of signer's <cert> block	C5	
		reference to bank's <cert>	C8	
<cert>	C8			bank's certificate

```
<fstc-doc docname="C"   doctype="check">
    <action>        <blkname>C1 . . . </action>
    <check>         <blkname>C2. . . </check>
    <signature>     <blkname>C3 . . . </signature>
    <account>       <blkname>C4 . . . </account>
    <cert>          <blkname>C5 . . . </cert>
    <attachment>    <blkname>C6 . . . </attachment> (optional)
    <signature>     <blkname>C7 . . . </signature>
    <cert>          <blkname>C8 . . . </cert>
</fstc-doc>
```

6.2.3 Global Structure - Certified, Signed Electronic Check

Global Block Structure Detail - Certified Signed Electronic Check				
Blocks	Block No.	Block References and Contents	Block No.	Block Function
<action>	Q1	PAYMENT/PROCESS		
<check>	Q2			certification block
<signature>	Q3	hash of <action>	Q1	certifier's signature
		hash of original <check>	C2	
		hash of new <certification>	Q2	
		reference to bank's <account>	Q5	
<cert>	Q4			certifier's certificate
<account>	Q5	issuer/serial of <cert>	Q4	certifier's account block
<signature>	Q6	hash of certifier' <account> block	Q5	bank's signature
		hash of certifiers <cert> block	Q4	
		reference to bank's <cert>	C7	
<cert>	Q7			bank's certificate
signed E-check	Cn			original echeck

```
<fstc-doc docname="Q"   doctype="certcheck">
    <action>          <blkname>Q1 . . . </action>
    <certification>   <blkname>Q2 . . . </endorsement>
    <signature>       <blkname>Q3 . . . </signature>
    <cert>            <blkname>Q4 . . . </cert>
    <account>         <blkname>Q5 . . . </account>
    <signature>       <blkname>Q6 . . . </signature>
    <cert>            <blkname>Q7 . . . </cert>
    <fstc-doc docname="C" doctype="check">
        <action>          <blkname>C1 . . . </action>
        <check>           <blkname>C2. . . </check>
        <signature>       <blkname>C3 . . . </signature>
        <account>         <blkname>C4 . . . </account>
        <cert>            <blkname>C5 . . . </cert>
        <attachment>      <blkname>C6 . . . </attachment> (optional)
        <signature>       <blkname>C7 . . . </signature>
        <cert>            <blkname>C8 . . . </cert>
    </fstc-doc>
<fstc-doc>
```

6.2.4 Global Structure - Endorsed Electronic Check

Global Block Structure Detail - Endorsed Electronic Check				
Blocks	Block No.	Block References and Contents	Block No.	Block Function
<action>.	E1	PAYMENT/PROCESS		
<endorsement>	E2			endorsement blocks
<signature>	E3	hash of <action>	E1	endorsers signature
		hash of original <check>	C2	
		hash of new <endorsement>	E2	
		hashes of any new <attachments>	E5	
		reference to endorsers <cert>	E4	
<cert>	E4			endorsers certificate
<attachment>	E5			new attachments
<signature>	E6	hash of endorsers <cert> block	E4	bank's signature
		reference to bank's <cert>	E7	
<cert>	E7			bank's certificate
signed E-check	Cn			original echeck

```
<fstc-doc docname="E"   doctype="endcheck">
    <action>        <blkname>E1 . . . </action>
    <endorsement> <blkname>E2 . . . </endorsement>
    <signature>     <blkname>E3 . . . </signature>
    <cert>          <blkname>E4 . . . </cert>
    <attachment>    <blkname>E5 . . . </attachment> (optional)
    <signature>     <blkname>E6 . . . </signature>
    <cert>          <blkname>E7 . . . </cert>
    <fstc-doc docname="C" doctype="check">
        <action>        <blkname>C1 . . . </action>
        <check>         <blkname>C2. . . </check>
        <signature>     <blkname>C3 . . . </signature>
        <account>       <blkname>C4 . . . </account>
        <cert>          <blkname>C5 . . . </cert>
        <attachment>    <blkname>C6 . . . </attachment> (optional)
        <signature>     <blkname>C7 . . . </signature>
        <cert>          <blkname>C8 . . . </cert>
    </fstc-doc>
<fstc-doc>
```

6.2.5 Global Structure - Deposited Electronic Check

Global Block Structure Detail - Deposited Electronic Check				
Blocks	Block No.	Block References and Contents	Block No.	Block Function
<action>	D1	DEPOSIT/PROCESS		
<deposit>	D2			deposit slip(s)
<signature>	D3	hash of <action>	D1	depositors signature
		hash of original <endorsement>	E2	
		hash of new <deposit> block(s)	D2	
		... repeat for all endorsed checks		
		hash of depositors <account>	D4	
		reference to depositors <account>	D4	
<account>	D4	issuer/serial of <cert>	D5	depositors account block
<cert>	D5			depositors certificate
<signature>	D6	hash of depositors <account>	D4	bank's signature
		hash of depositors <cert> block	D5	
	D7	reference to bank's <cert>	D7	
<cert>	Cn, En			bank's certificate
endorsed E-check				original echeck

```
<fstc-doc docname="D"  doctype="deposit">
    <action>     <blkname>D1 . . . </action>
    <depositt>   <blkname>D2 . . . </deposit>
    <signature>  <blkname>D3 . . . </signature>
    <account>    <blkname>D4 . . . </account>
    <cert>       <blkname>D5 . . . </cert>
    <signature>  <blkname>D6 . . . </signature>
    <cert>       <blkname>D7 . . . </cert>
    <fstc-doc docname="E"        doctype="endcheck">
        <action>         <blkname>E1 . . . </action>
        <endorsement>  <blkname>E2 . . . </endorsement>
        <signature>      <blkname>E3 . . . </signature>
        <cert>           <blkname>E4 . . . </cert>
        <attachment>   <blkname>E5 . . . </attachment> (optional)
        <signature>      <blkname>E6 . . . </signature>
        <cert>           <blkname>E7 . . . </cert>
        <fstc-doc docname="C" doctype="check">
            <action>       <blkname>C1 . . . </action>
            <check>        <blkname>C2. . . </check>
            <signature>    <blkname>C3 . . . </signature>
            <account>      <blkname>C4 . . . </account>
            <cert>         <blkname>C5 . . . </cert>
            <attachment>  <blkname>C6 . . . </attachment> (optional)
            <signature>    <blkname>C7 . . . </signature>
            <cert>         <blkname>C8 . . . </cert>
        </fstc-doc>
    </fstc-doc>
<fstc-doc>
```

6.2.6 Global Structure - Returned Electronic Check

Global Block Structure Detail - Returned Electronic Check				
Blocks	Block No.	Block References and Contents	Ref No.	Block Function
<action>	R1	RETURN/INFO		
<message>	R2			return item message
<signature>	R3	hash of <action>	R1	bank's signature
		hash of <message>	E2	
		hash of original <deposit> blocks	D2	
		reference to bank's <cert>		
<cert>	R4			bank's certificate
returned E-checks	C,E,D			echecks, endorsements, deposits

```
<fstc-doc docname="R" doctype="return">
  <action>      <blkname>R1 . . . </action>
  <message>     <blkname>R2 . . . </message>
  <signature>   <blkname>R3 . . . </signature>
  <cert>        <blkname>R4 . . . </cert>
  <fstc-doc docname="D" doctype="deposit">
    <action>      <blkname>D1 . . . </action>
    <deposit>     <blkname>D2 . . . </deposit>
    <signature>   <blkname>D3 . . . </signature>
    <account>     <blkname>D4 . . . </account>
    <cert>        <blkname>D5 . . . </cert>
    <signature>   <blkname>D6 . . . </signature>
    <cert>        <blkname>D7 . . . </cert>
    <fstc-doc docname="E" doctype="endcheck">
      <action>        <blkname>E1 . . . </action>
      <endorsement>   <blkname>E2 . . . </endorsement>
      <signature>     <blkname>E3 . . . </signature>
      <cert>          <blkname>E4 . . . </cert>
      <attachment>    <blkname>E5 . . . </attachment> <optional>
      <signature>     <blkname>E6 . . . </signature>
      <cert>          <blkname>E7 . . . </cert>
      <fstc-doc docname="C" doctype="check">
        <action>        <blkname>C1 . . . </action>
        <check>         <blkname>C2 . . . </check>
        <signature>     <blkname>C3 . . . </signature>
        <account>       <blkname>C4 . . . </account>
        <cert>          <blkname>C5 . . . </cert>
        <attachment>    <blkname>C6 . . . </attachment> <optional>
        <signature>     <blkname>C7 . . . </signature>
        <cert>          <blkname>C8 . . . </cert>
      </fstc-doc>
    </fstc-doc>
  <fstc-doc>
<fstc-doc>
```

6.3 Electronic Check Block Definitions

This section describes the blocks, fields, and other information specific to the use of FSML for Electronic Check documents.

Each E-Check Specific FSML block element starts and ends with one of the following sets of block tags:

Start Tag	End Tag
<action>	</action>
<signature>	</signature>
<check>	</check>
<deposit>	</deposit>
<endorsement>	</endorsement>
<certification>	</certification>
<account>	</account>
<cert>	</cert>
<attachment>	</attachment>
<invoice>	</invoice>
<message>	</message>
<bankstamp>	</bankstamp>
<bundle>	</bundle>

Figure 6.11: List of block elements

The block types are defined as follows:

action:	A block describing the action to be performed by the recipient
signature	A block with the signatures and hashes of other blocks
check	An electronic check
deposit	A deposit slip, attached to one or more checks
endorsement	An electronic endorsement, attached to a check
certification	A certification, used to create a certified check
account	A block containing accounting information
cert	A public key certificate
attachment	An associated document attached to an FSML document
invoice	An invoice/remittance document containing payment information
bankstamp	A block containing processing status information
bundle	A block used to combine a group of checks for inter-bank transmission[1]

[1] to be defined

6.3.1 E-Check Action Block Definition

E-check action blocks are the same as Generic Action blocks. The function field definition for the E-check application must be one of the following character strings

PAYMENT	This indicates that the document is a check being sent as payment to a payee.
TRANSFER	This indicates that the document is a check being sent to a bank to be cashed and transferred.
DEPOSIT	This indicates that the document is a check or group of checks being sent to a bank for deposit.
CERTIFY	This indicates that the document is a check being sent to a bank for certification.
STOP	This indicates that the document is a stop payment being sent to a bank.
INQUIRY	This indicates that the document is an inquiry being sent to a bank or other Electronic document processing entity.

6.3.2 E-Check Signature Block Definition

The E-check Signature Block is the same as the Generic Signature Block, except for additional fields as described below.

```
<signature>
        <blkname>cccccccc
        <crit>TRUE
        <vers>1.0
        <sigdata>
          <blockref>cccccccc
          <has alg="SHA">hhhhhh
          <blockref>cccccccc
           <has alg="SHA">hhhhhh
             ...
          <blockref>cccccccc
          <has alg="SHA">hhhhhh
          <nonce>nnnnn
          <sigref>cccccccc
          <certissuer>cccccccc
          <certserial>nnnnnnnn
          <algorithm>SHA/RSA
          <timestamp>cccccccc
          <location>cccccccc
          <username> cccccc
          <useraddr>cccccc
          <usermail>cccccc
          <useridnum>cccccc
          <userotherid>cccccc
          </sigdata>
          <sig>hhhhhhhh
        </signature>
```

Figure 6.12: E-check Signature block element definition

E-Check Signature Block Field Definitions

blockref (required) The signature block contains one or more <blockref> fields, each of which contains the unique block name of the associated block being signed. All of the block references must appear immediately before their respective hashes (See below). The <blockref> and <hash> pairs may be repeated multiple times to sign multiple blocks.

hash	(required) This field contains the actual hash of the respective block. Each <hash> start tag may have an attribute parameter which specifies the algorithm used to perform the hash. The currently allowed parameters are MD5[2] or SHA[4]. If not specified, the value will default to SHA. The use of MD5 is depreciated. Note: Attribute parameters must be enclosed in quotes.
nonce	(required) This is a nonce, or one-time random number, used to "salt" the hashed data to discourage cryptanalysis attacks.
sigref	(optional) This is the block name of the <account> block which contains a reference to the certificate block, or it is the block name of the <cert> block itself, for

	signatures that don't need account blocks. This field, although optional, is only optional when an agreement is in place indicating that the recipient of the document does not need the certificate in order to process the document.
certissuer	(optional) This filed contains the unique distinguished name of the issuer of the certificate(6). It should only be specified if the <account> and <cert> blocks are not being sent with this document, and only when the blocks being signed do not require an account, e.g. an endorsement.
certserial	(optional) This field contains the unique certificate serial number assigned by the issuer of the certificate. It should only be specified if the <account> and <cert> blocks are not being sent with this document, and only when the blocks being signed do not require an account, e.g. an endorsement.
algorithm	(required) This string indicates the algorithm used to sign the signature block. It may be MD5/RSA[3] or SHA/DSA[5] or SHA/RSA. Note: Implementors of code that is used to sign FSML Electronic Documents may choose to support only one of the above three possible signing algorithms. Implementors of code that is used to verify FSML Electronic Documents must support all three algorithms. This ensures interoperability. The use of MD5 is deprecated.
timestamp	(optional) This field specifies the time that the document was signed. It must be in Universal time (i.e. GMT) specified as CCYYMMDDThhmmssZ, where the T and Z are literal characters, and where "CC" is the century (currently 19, soon 20), "YY" is the year, "MM" is the month, "DD" is the day, "hh" is the hour, "mm" is the minutes and ss is the second[10].
location	(optional) This field specifies location/country where the document was signed.
username	(optional) This is an identification string containing the account users name. It is optionally inserted into the check by the Electronic Checkbook hardware token. This field, and the 5 following fields are considered the electronic equivalent of the data usually printed on a paper check by the Check Printing company.

This data is supplied by the checkbook owner to the bank at the time the electronic checking account is established but it is not certified to be correct or accurate by the bank. The data is inserted into the Electronic Checkbook when the Checkbook is initialized at the bank, and may also be corrected or updated later by the bank using administrative checkbook functions and passwords.

This data is then inserted, under control of the user, into the check by the Electronic Checkbook, however the data cannot be changed or deleted by the user once the check is created. It therefore supplies a form of identification sometimes required by check guarantee organizations or merchants. The user may select, when writing a check, which of the 6 identification fields are to be inserted into the check, in any combination, or may select none of them.

useraddr (optional) This is an identification string containing the account users address. It is optionally inserted into the check by the Electronic Checkbook hardware token.

userphone (optional) This is an identification string containing the account users phone number. It is optionally inserted into the check by the Electronic Checkbook hardware token.

usermail	(optional) This is an identification string containing the users email address. It is optionally inserted into the check by the Electronic Checkbook hardware token.
useridnum	(optional) This is an identification string containing the account users identification number. It is optionally inserted into the check by the Electronic Checkbook hardware token.
userotherid	(optional) This is an identification string containing any user identification the user wishes (e.g. company name). It is optionally inserted into the check by the Electronic Checkbook hardware token.
sig	(required) This is a hexadecimal encoding of the actual signature data.

Signature Calculation

The calculation of the Signature is performed as follows...

1. The <nonce> value is created (by the electronic checkbook) as a random number.
2. The <nonce> value is logically prepended to the subject block contents before hashing. This includes the tag string "<nonce>", e.g. if the nonce value is 12345, the characters <nonce> 12345 are logically prepended to the subject block before hashing.
3. The hash is calculated using the contents of the subject block, (with the <nonce> prepended) excluding the block start tag and block end tag, but including all characters in between, with the exception of all carriage returns, line feeds, and trailing spaces on a line. Leading and embedded spaces in a line are included in the hash. SGML entities (i.e. character names enclosed between an ampersand and a semicolon) are left untranslated when hashing.

4. The resulting hash value is inserted into the <hash> entry (as Hex ASCII) in the signature block.

5. Steps 2 through 4 are repeated for each block to be signed.

6. A second has calculation is performed on the contents of the <sigdata> sub-block, which contains the previously calculated hashes, their block references, and the <nonce>. This should include all characters between the <sigdata> tag and the </sigdata> tag, again omitting all carriage returns, line feeds, and trailing spaces. This second hash is then encrypted using the private key in the electronic checkbook. The result is the signature which is inserted (as Hex ASCII) into the signature block as the value for the <sig> tag.

6.3.3 Check Block Definition

This block contains the key data for an FSML Electronic Check.

Multiple signers/certificates may be required, as determined by the restrictions field in the signer's account block.

```
<check>
    <blkname>ccccccc
    <crit>TRUE
    <vers>1.0
    <checkdata>
        <checknum>nnn
        <date issued>cccccccccc
        <datevalid>cccccccccc
        <country>ccc
        <amount>nnn.nn
        <currency>ccc
        <payto>cccccccc
        <paytobank>ccccccc
        <paytoacct>ccccccccc
        <paytocustno>ccccccccc
    </checkdata>
    <checkbook>nnnn
    <restrictions>ccccccc
    <paytokey>hhhhhh
    <payeracct>ccccccc
    <memo>cccccccc
    <conditions>cccccccc
    <legalnotice>"This instrument is subject to check law"
</check>
```

Figure 6.13: Check block element definition

Check Block Field Definitions

checkdata (required) This is an enclosing sub-block. It is used to contain all of the check field that will be interpreted and/or logged by the Electronic Checkbook hardware token. To simplify parsing by this token, the <checkdata> sub-block contents must be in the order specified.

checknum (required) This is the unique check number created by the Electronic Checkbook hardware token.

dateissued (required) This is the effective date of the check, supplied by the check issuer. It is not necessarily the date the check was written. The date must be specified in the ISO standard [10[format CCYYMMDD, where "CC" is the century (currently 19, soon 20), "YY" is the year, "MM" is the month and "DD" is the day. The bank will be free to process or ignore this date as they choose.

datevalid (required) This is the effective date of validity for the check, supplied by the check issuer. It is not necessarily the date the check was written. It is reserved for future use. Currently, it should always be the same date as the <dateissued>. The date must be specified in the ISO standard[10] format CCYYMMDD, where "CC" is the century (currently 19, soon 20), "YY" is the year, "MM" is the month and "DD" is the day.

country (optional) This is the 3 letter ISO country code[13] of the location where the check is to be considered written.

amount (required) A decimal number containing the amount of the check.

currency (required) A 3 letter ISO currency code[14].

payto (required) This is a string which is the name or other check-issuer specified identification of the payee.

This field, and the following three fields for a subunit which identifies one of the possible payees for the check. If multiple payees are being specified, then the subunit may be repeated, with the fields in the same order for each payee (excluding optional fields).

paytobank (optional) This is a field which if specified must be accompanied by either the <paytoacct>field, or the <paytocustno> field, and which contains the bank code of the payee.

paytoacct (optional) This is a field which if specified must be accompanied by the <paytobank? field, and which contains the account number of the payee.

paytocustno (optional) This is a field which if specified must be accompanied by the <paytobank> field. It contains the customer number of the payee at the payees bank. Some banks may use this in lieu of an account number.

checkbook (required) This is an integer, supplied by the Electronic Checkbook hardware token, which is the bank-unique serial number of the checkbook.

restrictions (optional) This is a string containing restriction information about the specific check. The field may be repeated. It must be one of the following character strings.

- DURATION PnYnMnD
- FOR DEPOSIT ONLY
- ALL PAYEES MUST ENDORSE

The PnYnMnD is an ISO standard[10] method of representing duration, where each "n" is a one or two digit number, and the P character is required. The Numbers before Y, M, and D, represent years, months and days, respectively. The duration (valid lifetime of a check) defaults to 60 days if not otherwise specified here.

paytokey (optional) This is a hexadecimal encoded Public Key which may be used to uniquely specify the payee. If specified, the check may only be deposited in an account whose certificate has the identical key. This item may be repeated if multiple payees are being specified.

payeracct (optional) This is a field containing a character string which is the account information of the payer at the payees business, i.e. the number that the payee uses to determine who is paying, or why it is being paid. This is not a bank account number. As an example, this is the payer's account number at the electric utility, on a check used to pay an electricity bill.

memo (optional) A character string field, used for any purpose the check issuer wishes.

conditions (optional) A character string field, used to specify any conditions between the check issuer and endorser. Not processed by the bank.

legalnotice (required) This item must contain the character string "This instrument subject to check law".

6.3.4 Deposit Block Definition

This block contains a electronic deposit slip, which is bound (via a signature block) to one or more endorsement blocks before being sent to a bank or other financial institution for deposit. The associated endorsement blocks must also have check blocks bound to them.

```
<deposit>
   <blkname>cccccccc
   <crit>TRUE
   <vers>1.0
   <amount>nnn.nn
   <currency>ccc
   <date>ccccccc
   <country>ccc
   <items>nnnnn
</deposit>
```

Figure 6.14: Deposit block element definition

Deposit Block Field Definitions

date (required) This is the effective date of the deposit slip, supplied by the depositor. It is not necessarily the date the deposit slip was created. The date must be specified in the ISO standard[10] format CCYYMMDD, where "CC" is the century (currently 19, soon 20), "YY" is the year, "MM" is the month and "DD" is the day.

currency (required) A 3 letter ISO currency code[14].

items (required) An integer specifying the total number of checks or other items being deposited.

country (optional) A 3 letter ISO Country code[13].

6.3.5 Endorsement Block Definition

This block contains a digital endorsement of a financial document, usually a check. It must be bound (via a signature block) to the check it endorses.

```
<endorsement>
    <blkname>ccccccc
    <crit>TRUE
    <vers>1.0
    <endorsedata>
        <date>ccccccccc
        <country>ccc
        <amount>nnn.nn
        <currency>ccc
        <payto>cccccccc
        <paytobank>ccccccc
        <paytoacct>ccccccccc
        <paytocustno>ccccccccc
    </endorsedata>
    <checkbook>nnnn
    <restrictions>ccccccc
    <paytokey>hhhhhh
    <memo>cccccccc
</endorsement>
```

Figure 6.15: Endorsement block element definition

Endorsement Block Field Definitions

endorsedata (required) This is an enclosing sub-block. It is used to contain all of the endorsement fields that will be interpreted and/or logged by the Electronic Checkbook hardware token. To simplify parsing by this token, the <endorsedata> sub-block contents must be in the order specified.

date	(optional) This is the effective date of the endorsement, supplied by the endorser. It is not necessarily the date the endorsement was created. The date must be specified in the ISO standard [10] format CCYYMMDD, where "CC" is the century (currently 19, soon 20), "YY" is the year, "MM" is the month and "DD" is the day.
country	(optional) This is the 3 letter ISO country code of the location where the endorsement is to be considered written[13].
amount	(optional) A decimal number containing the amount of the endorsement. It may be less than the amount on the actual check, in which case the amount of the check is overridden.
currency	(optional) A 3 letter ISO currency code[14].
payto	(optional) This is a string which is the name or other endorser identification of the ultimate payee or next holder in due course. This field, and the following 3 fields form a subunit which identifies one of the possible payees for the check. If multiple payees are being specified, then the subunit may be repeated, with the 4 fields in the same order for each payee (excluding optional fields).

paytobank (optional) This field if specified must be accompanied by either the <paytoacct> field, or the <paytocustno> field, and which contains the bank code of the ultimate payee.

paytoacct (optional) This field if specified must be accompanied by the <paytobank> field, and which contains the account number of the ultimate payee.

paytocustno (optional) This field which if specified must be accompanied by the <paytobank> field. It contains the customer number of the ultimate payee at their bank. Some banks may use this in lieu of an account number.

checkbook (required) This is an integer, supplied by the Electronic Checkbook hardware token, which is the bank-unique serial number of the checkbook.

restrictions (optional) This is a string containing restriction information about the specific check being endorsed. The field may be repeated. It must be one of the following character strings.

- FOR DEPOSIT ONLY

paytokey (optional) This is a hexadecimal encoded Public Key which may be used to uniquely specify the payee. If specified, the check may only be deposited in an account whose certificate has the identical key. This item may be repeated if multiple payees are being specified.

memo (optional) A character string field, used for any purpose the endorsement issuer wishes.

6.3.6 Certification Block Definition

This block contains a digital certification of a check, i.e. a statement by the bank that the funds are available and are held in the account until the check clears. It is created by a bank officer or teller and must be bound by a signature block to the check that it certifies.

```
<certification>
    <blkname>cccccccc
    <crit>TRUE
    <vers>1.0
    <date>ccccccccc
    <country>ccc
    <checkbook>nnnn
    <cserial>nnnnnnnn
</certification>
```

Figure 6.16: Certification block element definition

Certification Block Field Definitions

date (required) This is the effective date of the certification, supplied by the certifier, i.e. the bank. The date must be specified in the ISO standard [10] format CCYYMMDD, where "CC" is the century (currently 19, soon 20), "YY" is the year, "MM" is the month and "DD" is the day.

country (optional) This is the 3 letter ISO country code of the location where the certification is to be considered written[13].

checkbook (required) This is an integer, supplied by the Electronic Checkbook hardware token, which is the bank-unique serial number of the hardware token that is signing the certified check.

cserial (optional) This is a bank-unique serial number of the certified check, used for audit-trail and identification purposes in the issuing bank.

6.3.7 Account Block Definition

This block contains information about the account of the check issuer, or endorser. It is always used in combination with a certificate block.

```
<account>
    <blkname>cccccccc
    <crit>TRUE
    <vers>1.0
    <bankcode>ccccc
    <bankacct>ccccc
    <bankser>nnnnnn
    <expdate>cccccc
    <accttitle>cccccc
    <acctype>cccccc
    <bankname>cccccc
    <bankaddr>cccccc
    <bankphone>cccccc
    <bankfax>cccccc
    <bankmail>cccccc
    <acctrest>cccccc
    <certissuer>cccccccc
    <certserial>nnnnnnnn
    <bankinfo1>ccccccccccccccc
    <bankinfo2>ccccccccccccccc
    <bankinfo3>ccccccccccccccc
</account>
```

Figure 6.17: Account block element definition

Account Block Field Definitions

bankcode (required) This is a string containing the unique bank routing code of the issuing bank.

bankacct	(required) This is a string containing the account number of this account in the issuing bank.
bankser	(required) This is a number containing the account block serial number of this account in the issuing bank.
expdate	(required) This is the expiration date of this account block. The date must be specified in the ISO standard[10] format CCYYMMDD, where "CC" is the century (currently 19, soon 20), "YY" is the year, "MM" is the month, and "DD" is the day.
accttitle	(optional) This is a string containing the account title.
acctype	(optional) This is a string containing the account type.
bankname	(optional) This is a string containing the bank's name.
bankaddr	(optional) This is a string containing the bank's address.
bankphone	(optional) This is a string containing the bank's phone number.
bankfax	(optional) This is a string containing the bank's fax number
bankemail	(optional) This is a string containing the bank's email address.
acctrest	(optional) This is a string containing any restrictions on the account. It must be one of the following character strings. The field may be repeated.

- MINIMUM AMOUNT nnnnn.nn CCC
- MAXIMUM AMOUNT nnnnn.nn CCC
- n SIGNATURES REQUIRED
- n SIGNATURES REQUIRED ABOVE AMOUNT nnnnn.nn CCC
- SPECIAL PROCESSING
- CURRENCY CCC

The "n" in the above restrictions represents a number. The "CCC" is a 3 letter ISO currency code[14]. This indicates the currency being specified in the AMOUNT, or the currency that checks are being restricted to by the bank (in the CURRENCY CCC restriction).

certissuer (required) This field contains the unique distinguished name of the issuer of the certificate[6] which can be used to verify signatures on FSML documents containing this account block.

certserial (required) This field contains the unique certificate serial number assigned by the issuer of the certificate which can be used to verify signatures on FSML documents containing this account block.

bankinfo1 (optional) This field contains the Issuing Bank information that is encoded into the MICR line on paper checks. This field corresponds to the field known as the "auz on us" field in ANSI X9.37-1994[15]. This field is used by the bank of first deposit to create "MICR-Line" information used in internal bank processing, and inter-bank transmission (e.g. ECP data). The field is encoded as follows. It contains up to 15 characters. Any character that is a decimal digit will be placed into the "MICR-line" unchanged. If a character in this field contains a substring containing the

letter 'N', this substring will be replaced by the check number when the document is processed at the bank of first deposit. If the subfield consists of a single 'N', the check number will be placed, as is, into the field. If the subfield consists of a sequence of 'NNN...N' then the check number will be placed into the field right justified, and padded with leading zeros. As an example, if an FSML Electronic Document, containing an Echeck with a <checknum> field of 101, is received, and the <bankinfo1> field contains 1237458NNNNN987, then the bank of first deposit will place this field into any "MICR-line" information as 123745800101987.

bankinfo2 (optional) This field contains the Issuing Bank information that is encoded into the MICR line on paper checks. This field corresponds to the field known as the "on us" field in ANSI X9.37-1994[15]. This field is used by the bank of first deposit to create "MICR-Line" information used in internal bank processing, and inter-bank transmission (e.g. ECP data). This field usually consists of the payer's account number, a serial number or transaction code, or both. The field can consist of up to three subfields, separated by an asterisk (*).

The field is encoded as follows. It contains up to 20 characters. Any character that is a decimal digit or asterisk will be placed into the "MICR-line" unchanged. If a character in this field contains a substring containing the letter 'A', this substring will be replaced by the account number when the document is processed at the bank of first deposit. If the subfield consists of a single 'A', the account number will be placed, as is, into the field. If the subfield consists of a sequence of 'AAA...A' then the account number will be placed into the field right justified, and padded with leading zeros.

If a character in this field contains a substring containing the letter 'N', this substring will be replaced by the check number when the document is processed at the bank of first deposit. If the subfield consists of a single 'N', the check number will be placed, as is, into the field. If the subfield consists of a sequence of 'NNN...N' then the check number will be placed into the field right justified, and padded with leading zeros.

As an example, if an FSML Electronic Document, containing an Echeck with an <bankacct> field of 12345678, and a <checknum> field of 101, is received, and the <bankinfo2> field contains A*NNNNN*987, then the bank of first deposit will place this field into any "MICR-line" information as 12345678*00101*987.

bankinfo3 (optional) This field contains the Issuing Bank information that is used in inter-bank processing. This field corresponds to the field known as the "external processing code" field in ANSI X9.37-1994[15]. This field is used by the Bank of first deposit to determine if check truncation is permitted and what type of truncation is used. The field is encoded as a single character.[2]

6.3.8 E-check Certificate Block Definition

This block contains an encoded X.509 certificate[6]. It is identical to the Generic Certificate Block.

[2] character encoding to be determined.

6.3.9 E-check Attachment Block Definition

This block contains any document that is to be attached to the FSML Electronic Document (e.g. a Remittance notice, Contract, etc.). It is identical to the Generic Attachment Block.

6.3.10 Invoice Block Definition

This block contains invoice information used by a merchant or other payee to request that the payer create a check using the information contained in the invoice. It is also used as remittance information by the payer to be attached to the check being used to pay the invoice.

```
<invoice>
    <blkname>ccccccc
    <crit>TRUE
    <vers>1.0
    <custacct>cccccccc
    <amount>nnn.nn
    <currency>ccc
    <payto>cccccccc
    <paytobank>ccccccc
    <paytoacct>ccccccccc
    <paytocustno>ccccccccc
    <paytokey>hhhhhh
    <date>cccccccc
    <invdata>
    . . .
    </invdata>
</invoice>
```

Figure 6.18: Invoice block element definition

Invoice Block Field Definitions

custacct (optional) This field contains the customers account number or code in the merchants (payees) accounting system. It should be returned in the <payeracct> field in the check used to pay the invoice.

amount (required) A decimal number containing the amount being invoiced, or the amount due.

currency (required) A 3 letter ISO currency code[14].

payto (required) This is a string which is the name or other check-issuer specified identification of the payee.

This field, and the following 3 fields form a subunit which identifies one of the possible payees for the check. If multiple payees are being specified, then the subunit may be repeated, with the fields in the same order for each payee (excluding optional fields).

paytobank (optional) This is a field which if specified must be accompanied by either the <paytoacct> field, or the <paytocustno> field, and which contains the bank code of the payee.

paytoacct (optional) This is a field which if specified must be accompanied by the <paytobank> field, and which contains the account number of the payee.

paytocustno (optional) This is a field which if specified must be accompanied by the <paytobank> field. It contains the customer number of the payee at the payees bank. Some banks may use this in lieu of an account number.

paytokey (optional) This is a hexadecimal encoded Public Key which may be used to uniquely specify the payee. This item may be repeated if multiple payees are being specified.

date (optional) The date that the payment is due. The date must be specified in the ISO standard[10] format CCYYMMDD, where "CC" is the century (currently 19, soon 20), "YY" is the year, "MM" is the month and "DD" is the day.

invdata (optional) This field contains any other data that may be associated with the invoice, e.g. a purchase order or other purchase information.

6.3.11 E-Check Message Block Definition

This block contains error messages and return information that indicate the reason that the attached FSML Document was not processed successfully or it may contain other information about the attached document. It is identical to the Generic Message Block.

6.3.12 Bankstamp Block Definition

This block contains processing information analogous to the bank stamps placed on the back of a paper check as it is processed by the banks and other institutions as it flows through the processing infrastructure.

```
<bankstamp>
    <blkname>cccccccc
    <crit>TRUE
    <vers>1.0
    <date>cccccccc
    <timestamp>cccccccc
    <stampserial>nnnnnnnn
    <bankcode>nnnnnnnn
    <serverid>cccccccc
    <stampdata>cccccccc
</bankstamp>
```

Figure 6.19: Bankstamp block element definition

Bankstamp Block Field Definitions.

date	(required) This is the effective date of the bank stamp. The date must be specified in the ISO standard[10] format CCYYMMDD, where "CC" is the century (currently 19, soon 20), "YY" is the year, "MM" is the month and "DD" is the day.
timestamp	(required) This field specified the time that the document was stamped. It must be in Universal time (i.e. GMT) specified as CCYYMMDDThhmmssZ, where the T and Z are literal characters, and where "CC" is the century (currently 19, soon 20), "YY is the year, "MM" is the month, "DD" is the day, "hh" is the hour, "mm" is the minute and ss is the second [10].
stampserial	(required) This field contains a bank-unique serial number, used for tracking purposes within the bank that creates the <bankstamp> block.
bankcode	(required) This is a string containing the unique bank routing code of the bank.
serverid	(optional) This is a string containing the unique bank E-check server identification, which may be used if a bank has more than one E-check server and needs to identify which one processed the document and created the bankstamp.
stampdata	(optional) This is a string containing any additional information the bank wishes to include in its bank stamps.

Certificate Guidelines

The following guidelines should be used for issuing and utilization of <account> and <cert> blocks.

- There is one certificate per bank customer, and there is one account block for each customer with signing privileges for each account.

- X509 Distinguished name formats for certificates are structured as follows ...

Name of Customer or Account Holder:

countryName	per ISO standard
stateOrProvinceName	per ANSI standard
organizationName	name of the bank
organizationalUnitName	"checking"
commonName	bank-assigned arbitrary ID #

Name of Bank (issuer of Customer Certificate):

countryName	per ISO standard
stateOrProvinceName	per ANSI standard
organizationName	name of the bank
organizationalUnitName	"checking"

Name of Bank CA (issuer of Bank Certificate):

countryName	per ISO standard
stateOrProvinceName	per ANSI standard
organizationName	name of the bank
organizationalUnitName	"checking CA"

For certified checks the certificate of the teller certifying the check would contain a subject name:

countryName	per ISO standard
stateOrProvinceName	per ANSI standard
organizationName	name of the bank
organizationalUnitName	"checking operations"
commonName	bank-assigned teller ID #

State or province names are included because banks have per-state banking units under existing law.

The organizational unit names contain "checking" so that it is clear by the subject name what the purpose of the certificates is and which bank CA policy should apply.

Note that these Distinguished Names do not contain the customer's actual name; only some arbitrary number that the bank can use to link the customer to the various relationships that the customer has with the bank.

- The expiration dates on the certificate can be further into the future than those on the account blocks, since the rate at which customers leave a bank is presumably lower than the rate at which they open/close/change accounts or the restrictions on those accounts. A year, or six months is a reasonable lifetime for a certificate.

- The <account> block is issued when an account is opened or changed in some respect. The expiration dates should probably be a lot shorter than those for certificates.

- The <account> block contains the issuer name and serial number of the certificate that the customer can use in signing documents (checks, endorsements, deposit slips) on that account.

- By prior agreement, the inclusion of certificates in electronic checks can be optional, since the bank can always request the certificate from the issuing Certification Authority using the well known X.500 Directory Access Protocol. However, the payee would probably prefer to get the payer's certificate included in the Electronic check. The payee would probably prefer to get the bank's certificate as well, thus the rule should be that certificates should be included in all documents unless a prior agreement with the document recipient indicates that they may be omitted.

Field Summary

Below is a summary of the attributes of each of the entities or fields allowed in an FSML Electronic Document.

8.1 Field Attributes Table (part 1)

Field Attribute Summary - Part One							
Field Name	Containing Blocks	Min Size	Max Size	Size Code	Opt	Logged	Notes
blkname	all	1	16	P			
crit	all	4	5	F	Yes		
vers	all	1	8	P	Yes		
acctrest	<account>	1	256	P	Yes		
accttitle	<account>	1	76	P	Yes		
acctype	<account>	1	76	P	Yes		
adata	<attachment>	1	N/A		Yes		
algorithm	<signature>	7	7	F			
amount	miltiple types	1	10	B		Yes	
bankacct	<account>	1	18	B			
bankaddr	<account>	1	76	P	Yes		
bankcode	<account> <bankstamp>	9	9	B	Yes		
bankemail	<account>	1	76	P	Yes		
bankfax	<account>	1	76	P	Yes		
bankinfol	<account>	1	15	B	Yes		
bankinfo2	<account>	1	20	B	Yes		
bankinfo3	<account>	1	1	B	Yes		
bankname	<account>	1	76	P	Yes		
bankphone	<account>	1	76	P	Yes		
bankser	<account>	1	16	B			
blockref	<signature>	1	76	P			
certdata	<cert>	1	N/A				
certissuer	multiple types	1	256	P	Yes		
certserial	multiple types	1	16	P	Yes		
certtype	<cert>	6	6	F			
checkbook	multiple types	1	16	B			
checknum	<checkdata>	1	15	B		Yes	
conditions	<check>	1	76	P	Yes		
country	multiple types	3	3	F	Yes	Yes	
cserial	<certification>	1	16	P	Yes		
currency	multiple types	3	3	F	Yes	Yes	

8.2 Field Attributes Table (part 2)

Field Attribute Summary - Part Two							
Field Name	Containing Blocks	Min Size	Max Size	Size Code	Opt	Logged	Notes
custacct	<invoice>	1	76	P	Yes		
date	multiple types	8	8	F	Yes	Yes	
dateissued	<checkdata>	8	8	F		Yes	
datevalid	<checkdata>	8	8	F		Yes	
expdate	<account>	8	8	F			
function	<action>	1	16	F			
hash	<signature>	1	256	F			
invdata	<invoice>	1	N/A		Yes		
items	<deposit>	1	8	P			
legalnotice	<check>	1	76	P			
location	<signature>	1	76	P	Yes		
memo	<check>	1	76	P	Yes		
msgtext	<message>	1	76	P			
msgdata	<message>	1	N/A		Yes		
nonce	<signature>	8	16	P			
payeracct	<check>	1	76	P	Yes		
payto	multiple types	1	16	L		Yes	1
paytoacct	multiple types	1	18	B	Yes	Yes	
paytobank	multiple types	9	9	B	Yes	Yes	
paytocustno	multiple types	1	18	L	Yes	Yes	
paytokey	multiple types	128	256	F	Yes		
reason	<action>	1	16	F			
restrictions	<check> <endorsement>	1	256	P			
retcode	<message>	1	8	F			
serverid	<bankstamp>	1	8	P			
sig	<signature>	128	256	F			
sigref	<signature>	1	76	P	Yes		
stampdata	<bankstamp>	N/A	N/A				
stampserial	<bankstamp>	16	16	P			
timestamp	<signature> <bankstamp>	16	16	F	Yes		
useraddr	<signature>	1	76	P	Yes		
useremail	<signature>	1	76	P	Yes		
useridnum	<signature>	1	76	P	Yes		
username	<signature>	1	76	P	Yes		
userotherid	<signature>	1	76	P	Yes		
userphone	<signature>	1	76	P	Yes		

Notes:
1 Field may be longer but only the first 16 bytes are logged.

The Size Code column in the above tables indicates the reason that the specified Maxsizes were chosen, as follows:

Max Size Reason codes	
Code	Rationale
B	Required by Banking standards
F	Format of data dictates size
L	Limited by Logging area size limitations
P	Practicality considerations limit size

What is claimed is:

1. A method for allowing distributed production of an encrypted document, comprising

providing a computer network having a first and a second workstation and being capable of transferring an electronic document between the workstations,

providing each of the workstations with an editor capable of modifying an electronic document to include blocks of information including a content block representative of content, and a signature block representative of a signature signal associated with the content block, and having a hash operator for processing data to generate a hash signal,

allowing a user at the first workstation to operate the respective editor to modify a first electronic document to include a first content block and an associated first signature block, and to employ the hash operator to generate a first hash signal as a function of the first content block and to insert the first hash signal within the first signature block and to generate a first signature hash signal as a function thereof,

transferring the first electronic document to the second workstation,

allowing a user at the second workstation to operate the respective editor to modify the first electronic document to include a second content block and an associated second signature block, and to employ the hash operator to generate a second hash signal as a function of the second content block and to insert the second hash signal within the second signature block and to generate a second signature hash signal as a function thereof,

and allowing a third user to operate the editor to generate a third signature signal as a function of the first signature hash signal and the second signature hash signal.

2. A system for transmission of electronic documents in a distributed computer network, comprising:

a first computer;

a second computer;

a network;

a document type definition according to the standard generalized markup language standard, the document type definition permitting the division of documents into a plurality of blocks; and

a secure authenticator, for ensuring authenticity of a document and permitting the discarding of a document part without destroying the authentication of the entire document.

3. The system of claim 1, wherein the document is a loan application.

4. The system of claim 1, wherein the document is a contract.

5. The system of claim 1, wherein the document is a medical record.

6. The system of claim 1, wherein the document is a prescription.

7. The system of claim 1, wherein the document is a transcript.

8. The system of claim 1, wherein the document is a notarized document.

9. A computer-based system of claim 1, further comprising:

a token, the token having a memory, a processor, and a port for communication with a computer,

a memory of such token that contains a private encryption key associated with secure information related to the user of the computer which is usable to append a secure, verifiable signature to an electronic document generated with the computer, and

certification information provided by a third party which is usable to append a secure, verifiable certificate to the electronic document to certify a relationship between the user and a public key of the user.

10. A system for transmission of secure electronic documents over a distributed computer network, comprising:

a first signer computer;

a second signer computer;

a network;

a document processor, for generating electronic documents, wherein the documents may be divided into a plurality of blocks according to logical content of such blocks; and

a secure authenticator, for digitally signing such documents and such blocks.

11. A computer-based method of securing the transmission of electronic documents over a distributed computer network, comprising:

dividing the electronic document into a plurality of blocks;

applying a signature to one or more of the blocks; and

applying a multi-level hash function to the signature and the blocks.

12. The computer-based method of claim 11, wherein the blocks include a signature block and each block has a reference number, wherein the multi-level hash function comprises:

generating a random number;

appending the random number to the contents of the electronic document;

calculating a first hash value of the random number and the contents of the document;

inserting the first hash value into the signature block;

appending the random number to the contents of each block of the electronic document;

calculating a second hash value of the random number and the contents of the block;

calculating a third hash value of the first hash value, the second hash value, the reference numbers of the blocks, and the random number; and

encrypting the hash value.

13. The method of claim 11, wherein the blocks may be transmitted without destroying the integrity of the signature with respect to the document.

14. A computer-based system for processing a document that is human readable and machine processable, comprising:

a document type definition according to the standard generalized mark-up language

standard;

a tag type of such document type definition for separating the document into a plurality of blocks; and

a signature algorithm, wherein a recipient of a signed portion of the document may verify one or more of the authenticity, the execution and the integrity of the portion without having access to the entire document.

15. The computer-based system of claim 14, wherein the signature algorithm comprises:

a first signature algorithm for signing the blocks; and

a second signature algorithm for signing the document.

16. The computer-based system of claim 14, wherein the document is a loan application.

17. The computer-based system of claim 14, wherein the document is a contract.

18. The computer-based system of claim 14, wherein the document is a medical record.

19. The computer-based system of claim 14, wherein the document is a prescription.

20. The computer-based system of claim 14, wherein the document is a transcript.

21. The computer-based system of claim 14, wherein the document is a notarized document.

22. The computer-based system of claim 14, wherein the first signature algorithm and the second signature algorithm are public key signature algorithms.

23. The computer-based system of claim 15, wherein the document is a loan application.

24. The computer-based system of claim 15, wherein the document is a contract.

25. The computer-based system of claim 15, wherein the document is a medical record.

26. The computer-based system of claim 15, wherein the document is a prescription.

27. The computer-based system of claim 15, wherein the document is a transcript.

28. The computer-based system of claim 15, wherein the document is a notarized document.

29. The computer-based system of claim 15, wherein the document is a financial instrument.

30. The computer-based system of claim 29, further comprising:
certificates to bind public keys to signers of such blocks or such documents.

31. The computer-based system of claim 30, further comprising:

a data storage and retrieval device for storing a private key of such signature algorithm.

32. The computer-based system of claim 31, further comprising:

a data storage and retrieval device for recording data associated with a financial transaction.

33. The computer-based system of claim 32, further comprising:

an algorithm for ensuring the uniqueness of the document.

34. The computer-based system of claim 33, wherein the transmission of the document is insensitive to the transport system.

35. A computer-based system for processing a document that is human readable and machine processable, comprising:

means for separating the document into a plurality of blocks;

means for signing the blocks; and

means for signing the entire document, wherein a recipient of a signed block of such document may verify that the block is a block of such entire document.

36. A system for providing cryptographically signed electronic financial instruments, comprising:

a syntax definition for said financial instruments;

electronic checkbook hardware, for ensuring authenticity and uniqueness of the financial instrument; and

a signature system permitting the binding and discarding of document parts.

37. A computer-based system for processing a document that is human readable and machine processable, comprising:

a document type definition according to the standard generalized mark-up language standard, wherein the document type definition provides for compliance with at least one of a legal requirement and a business practice.

38. The computer-based system of claim 37, further comprising:

a signature algorithm, wherein a recipient of a signed portion of the document may verify one or more of the authenticity, the execution and the integrity of the portion without having access to the entire document.

39. The computer-based system of claim 38, wherein compliance with at least one of a legal requirement and a business practice comprises:

a content block for a type of significant communication; and

a protocol for manipulation of the content of such block.

40. The computer-based system of claim 37, wherein the signficant communication is a performative utterance.

41. The computer-based system of claim 37, wherein the significant communication is a statement to pay funds to the order of a party.

42. The computer-based system of claim 37, wherein the significant communication is a medical prescription.

43. A computer mark-up language for processing a document that is human readable and machine processable, comprising:

a document type definition according to the standard generalized mark-up language standard;

a tag type of such document type definition for separating the document into a plurality of blocks; and

a signature algorithm, wherein a recipient of a signed portion of the document may verify one or more of the authenticity, the execution and the integrity of the portion without having access to the entire document.

44. The markup language of claim 43, wherein the document is a loan application.

45. The markup language of claim 43, wherein the document is a contract.

46. The markup language of claim 43, wherein the document is a medical record.

47. The markup language of claim 43, wherein the document is a prescription.

48. The markup language of claim 43, wherein the document is a transcript.

49. The markup language of claim 43, wherein the document is a notarized document.

50. The markup language of claim 43, further comprising:

means for dividing the electronic document into a plurality of blocks;

means for applying a signature to one or more of the blocks; and

means for applying a multi-level hash function to the signature and the blocks.

51. The computer-based method of claim 50, wherein the blocks include a signature block and each block has a reference number, wherein the multi-level hash function comprises:

means for generating a random number;

means for appending the random number to the contents of the electronic document;

means for calculating a first hash value of the random number and the contents of the document;

means for inserting the first hash value into the signature block;

means for appending the random number to the contents of each block of the electronic document;

means for calculating a second hash value of the random number and the contents of

the block;

means for calculating a third hash value of the first hash value, the second hash value, the reference numbers of the blocks, and the random number; and

means for encrypting the third hash value.

5

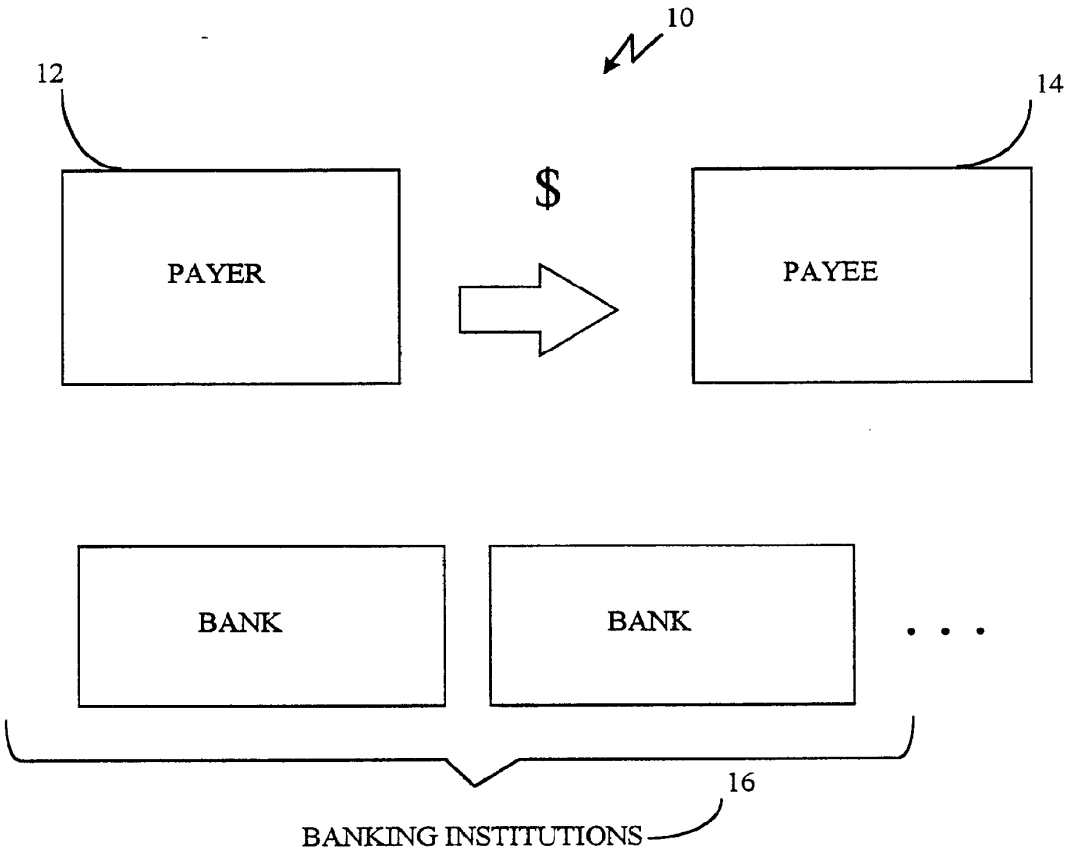


FIG. 1

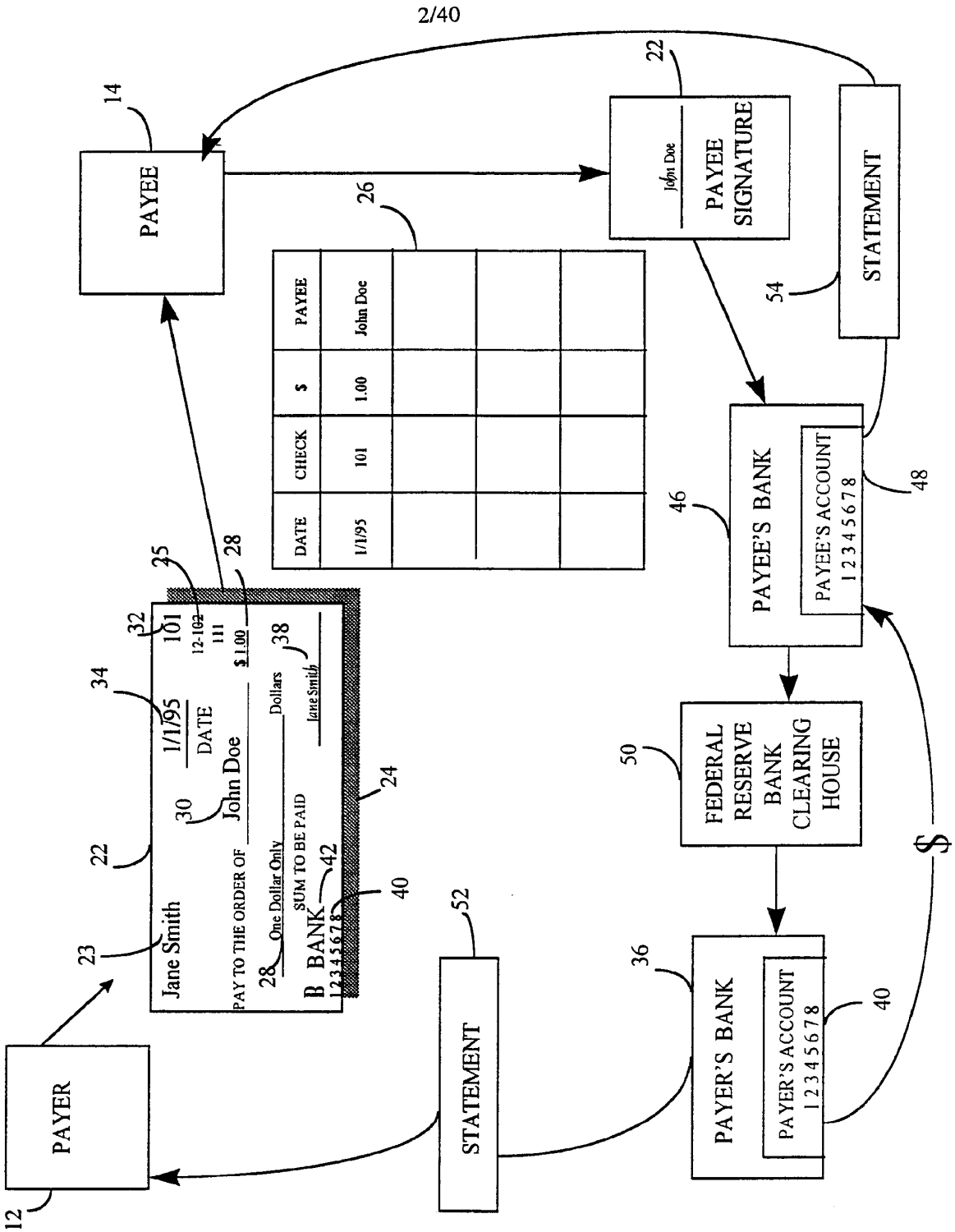

PAYEE
14
PAYEE SIGNATURE
John Doe
22
STATEMENT
54
26
DATE
CHECK
$
PAYEE
1/1/95
101
1.00
John Doe
PAYEE'S BANK
PAYEE'S ACCOUNT
12345678
46
48
25
28
32
101
12-102
111
$1.00
38
34
1/1/95
DATE
30
John Doe
Dollars
Jane Smith
PAY TO THE ORDER OF
One Dollar Only
SUM TO BE PAID
42
B BANK
12345678
24
40
22
23
Jane Smith
FEDERAL RESERVE BANK CLEARING HOUSE
50
52
36
PAYER'S BANK
PAYER'S ACCOUNT
12345678
40
$
PAYER
12
STATEMENT

FIG. 2

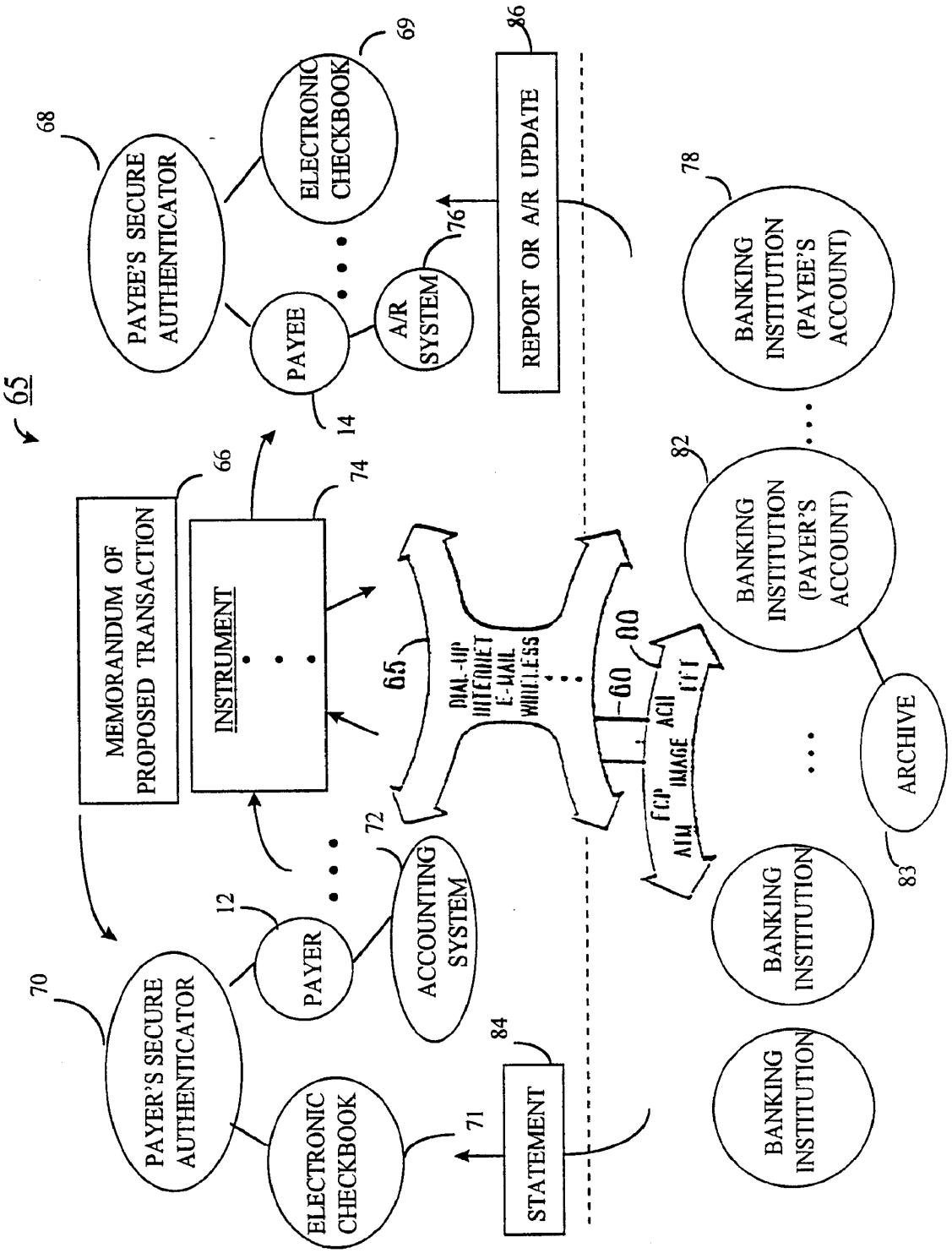

65
PAYEE'S SECURE AUTHENTICATOR
68
ELECTRONIC CHECKBOOK
69
PAYEE
14
A/R SYSTEM
76
REPORT OR A/R UPDATE
86
BANKING INSTITUTION (PAYEE'S ACCOUNT)
78
MEMORANDUM OF PROPOSED TRANSACTION
66
INSTRUMENT
74
65
DIAL-UP INTERNET E-MAIL WIRELESS
60
ACH
FTP
IMAGE
AIM
BANKING INSTITUTION (PAYER'S ACCOUNT)
82
PAYER'S SECURE AUTHENTICATOR
70
PAYER
12
ACCOUNTING SYSTEM
72
ELECTRONIC CHECKBOOK
71
STATEMENT
84
BANKING INSTITUTION
BANKING INSTITUTION
ARCHIVE
83

FIG. 3

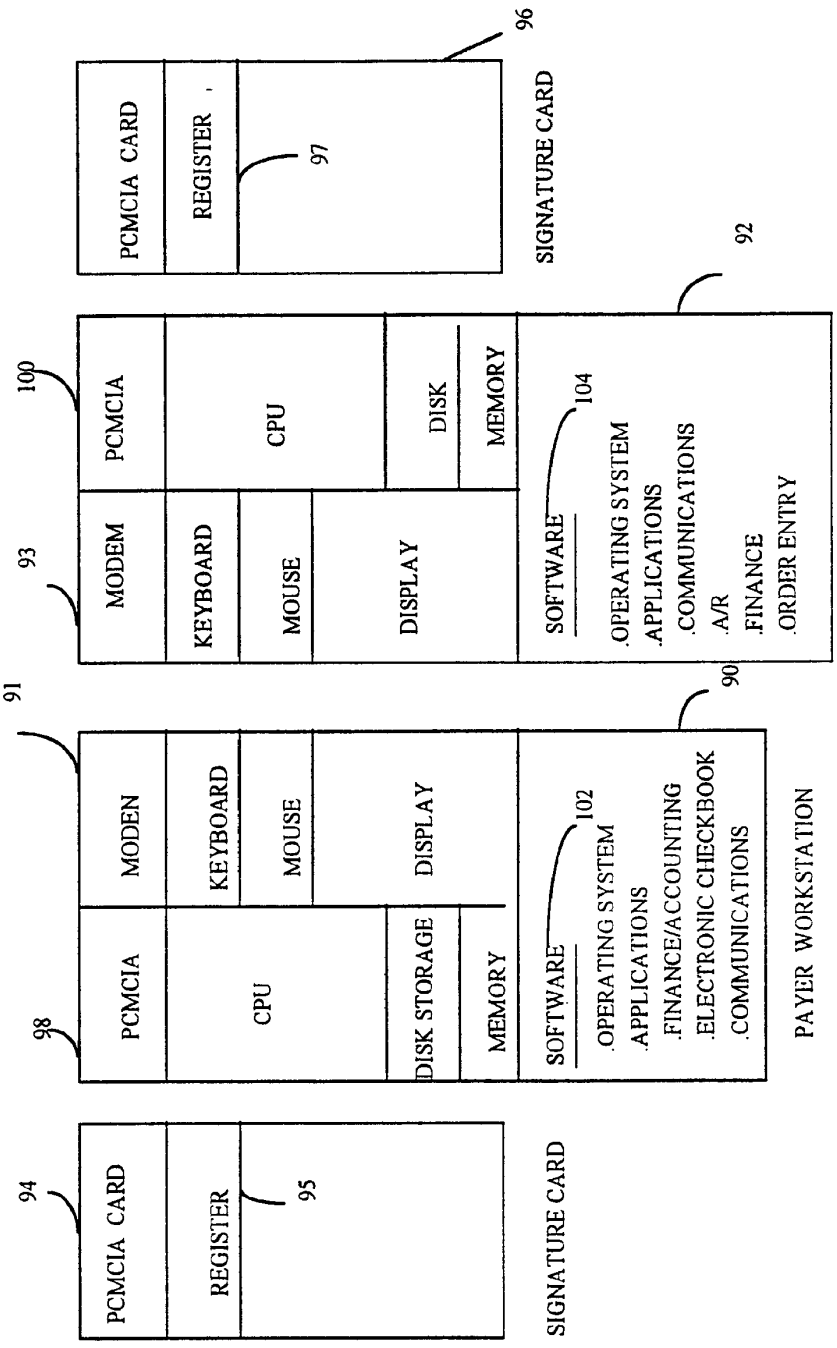
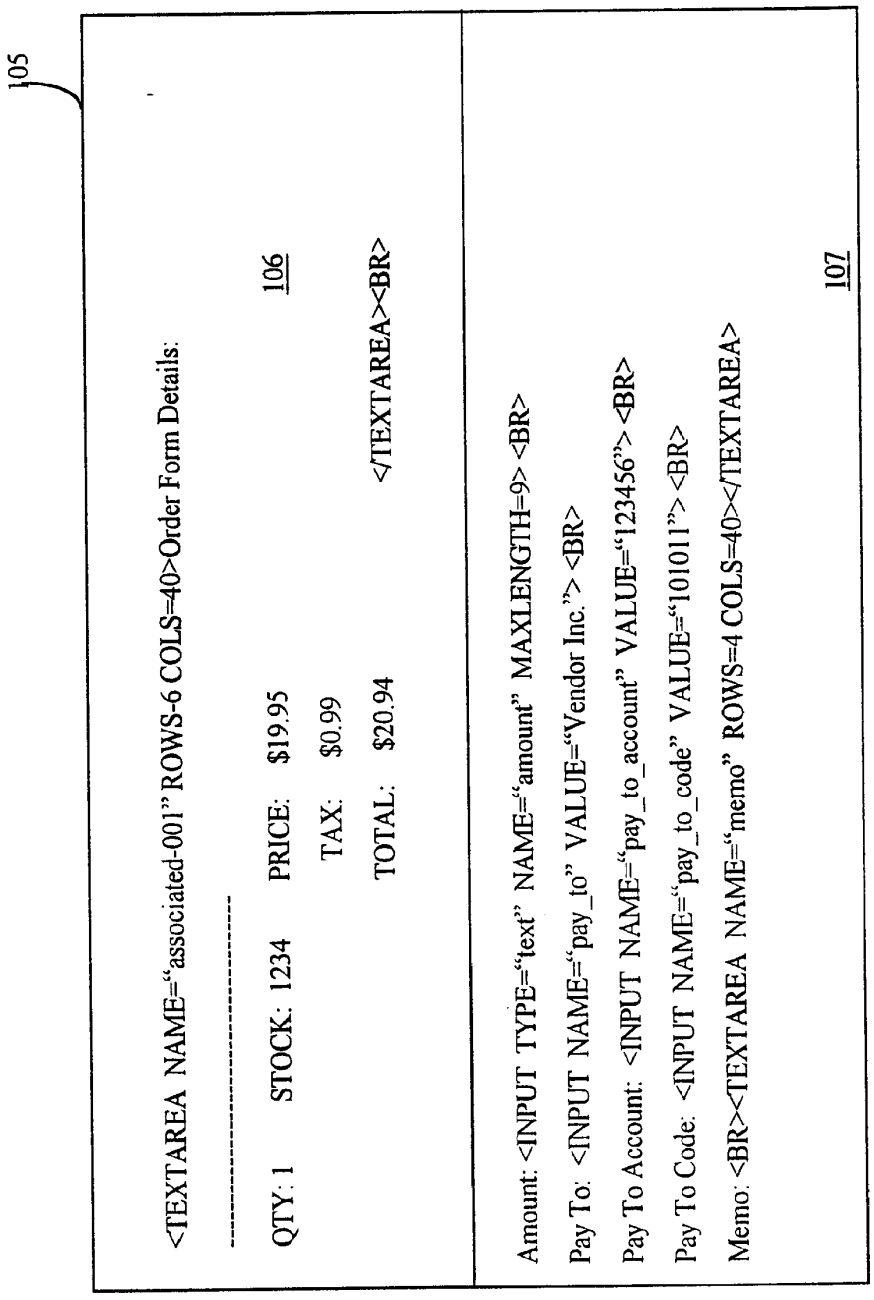

PCMCIA CARD
REGISTER
95
94
SIGNATURE CARD
PCMCIA
MODEN
CPU
KEYBOARD
MOUSE
DISPLAY
DISK STORAGE
MEMORY
98
91
SOFTWARE
102
.OPERATING SYSTEM
.APPLICATIONS
.FINANCE/ACCOUNTING
.ELECTRONIC CHECKBOOK
.COMMUNICATIONS
90
PAYER WORKSTATION
PCMCIA CARD
REGISTER
97
96
SIGNATURE CARD
MODEM
KEYBOARD
MOUSE
DISPLAY
PCMCIA
CPU
DISK
MEMORY
100
93
SOFTWARE
104
.OPERATING SYSTEM
.APPLICATIONS
.COMMUNICATIONS
.A/R
.FINANCE
.ORDER ENTRY
92

FIG. 4


105
<TEXTAREA NAME="associated-001" ROWS-6 COLS=40>Order Form Details:

QTY: 1 STOCK: 1234 PRICE: $19.95
TAX: $0.99
TOTAL: $20.94
106
</TEXTAREA>
Amount: <INPUT TYPE="text" NAME="amount" MAXLENGTH=9>
Pay To: <INPUT NAME="pay_to" VALUE="Vendor Inc.">
Pay To Account: <INPUT NAME="pay_to_account" VALUE="123456">
Pay To Code: <INPUT NAME="pay_to_code" VALUE="101011">
Memo:
<TEXTAREA NAME="memo" ROWS=4 COLS=40></TEXTAREA>
107

FIG. 5

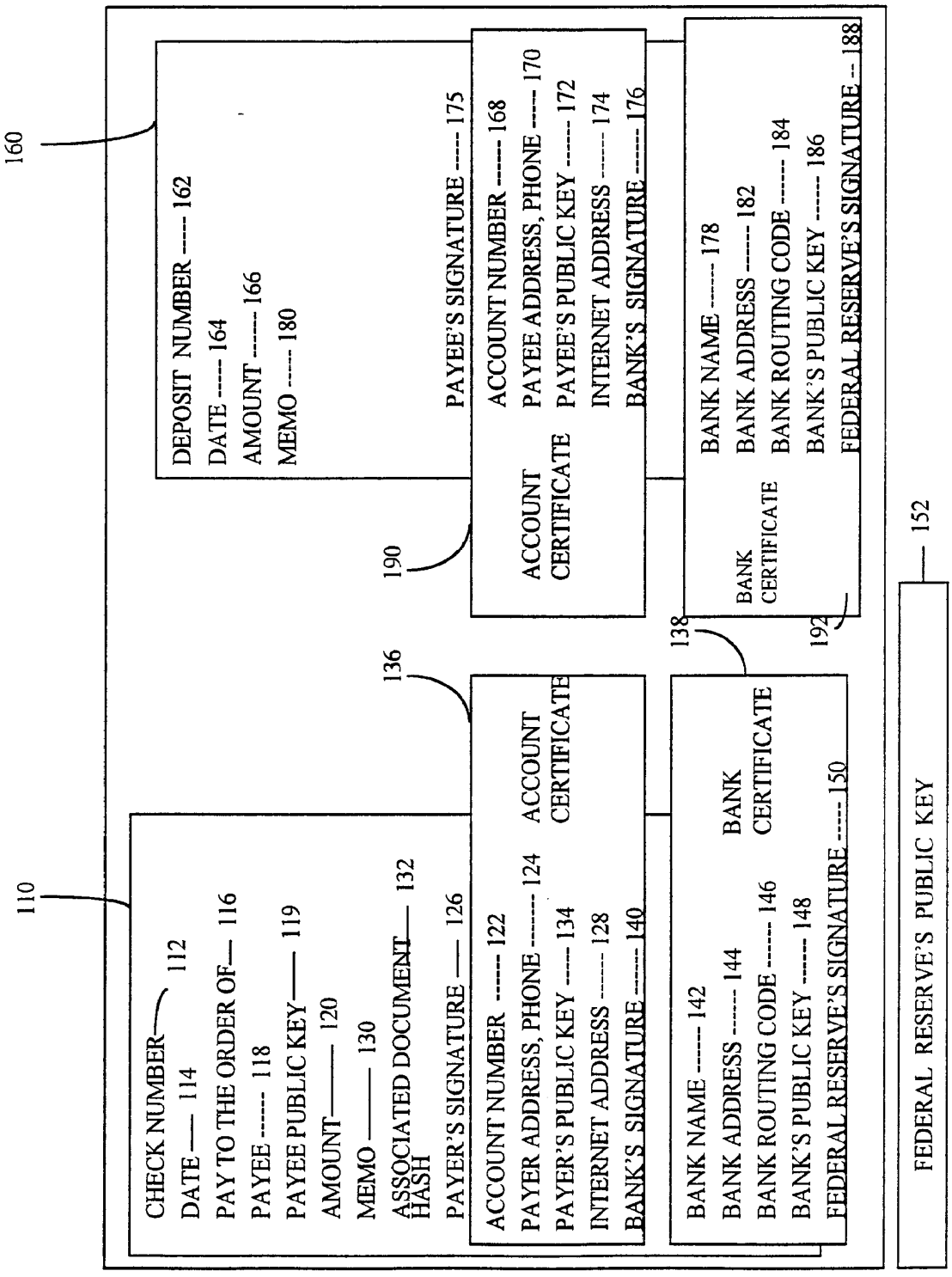


FIG. 6

SUBSTITUTE SHEET (RULE 26)

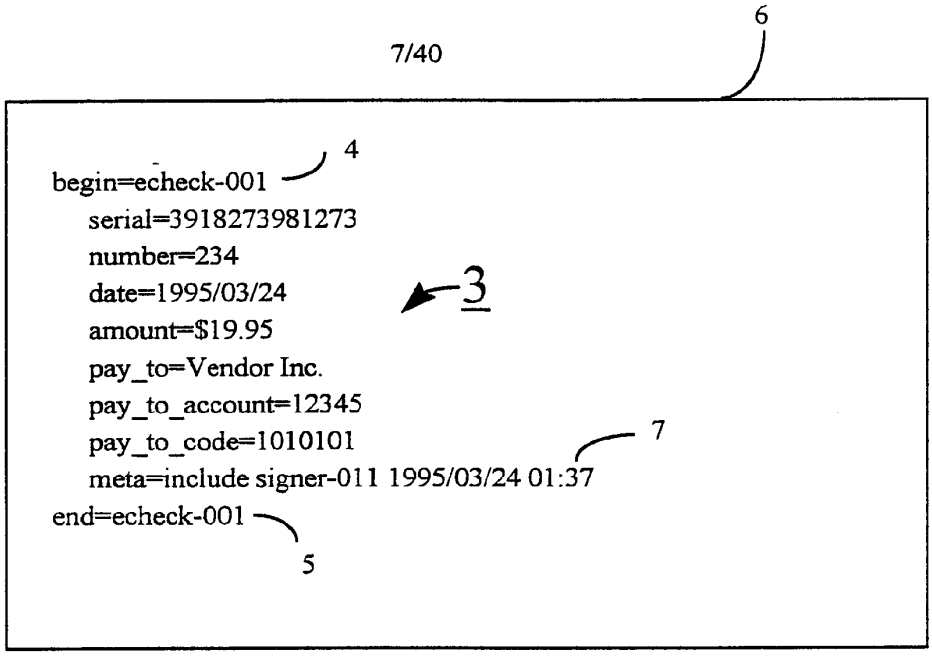

6
4
begin=echeck-001
serial=3918273981273
number=234
date=1995/03/24
amount=$19.95
pay_to=Vendor Inc.
pay_to_account=12345
pay_to_code=1010101
meta=include signer-011 1995/03/24 01:37
end=echeck-001
3
7
5

FIG. 7

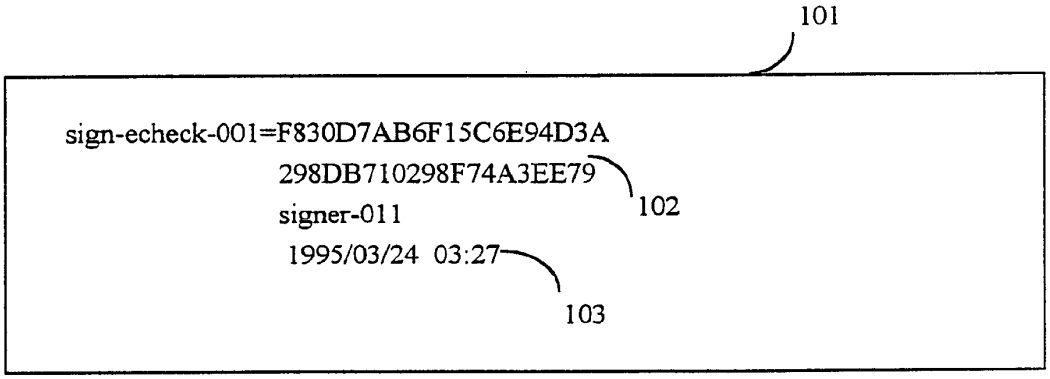

101
sign-echeck-001=F830D7AB6F15C6E94D3A
298DB710298F74A3EE79
signer-011
1995/03/24 03:27
102
103

FIG. 8

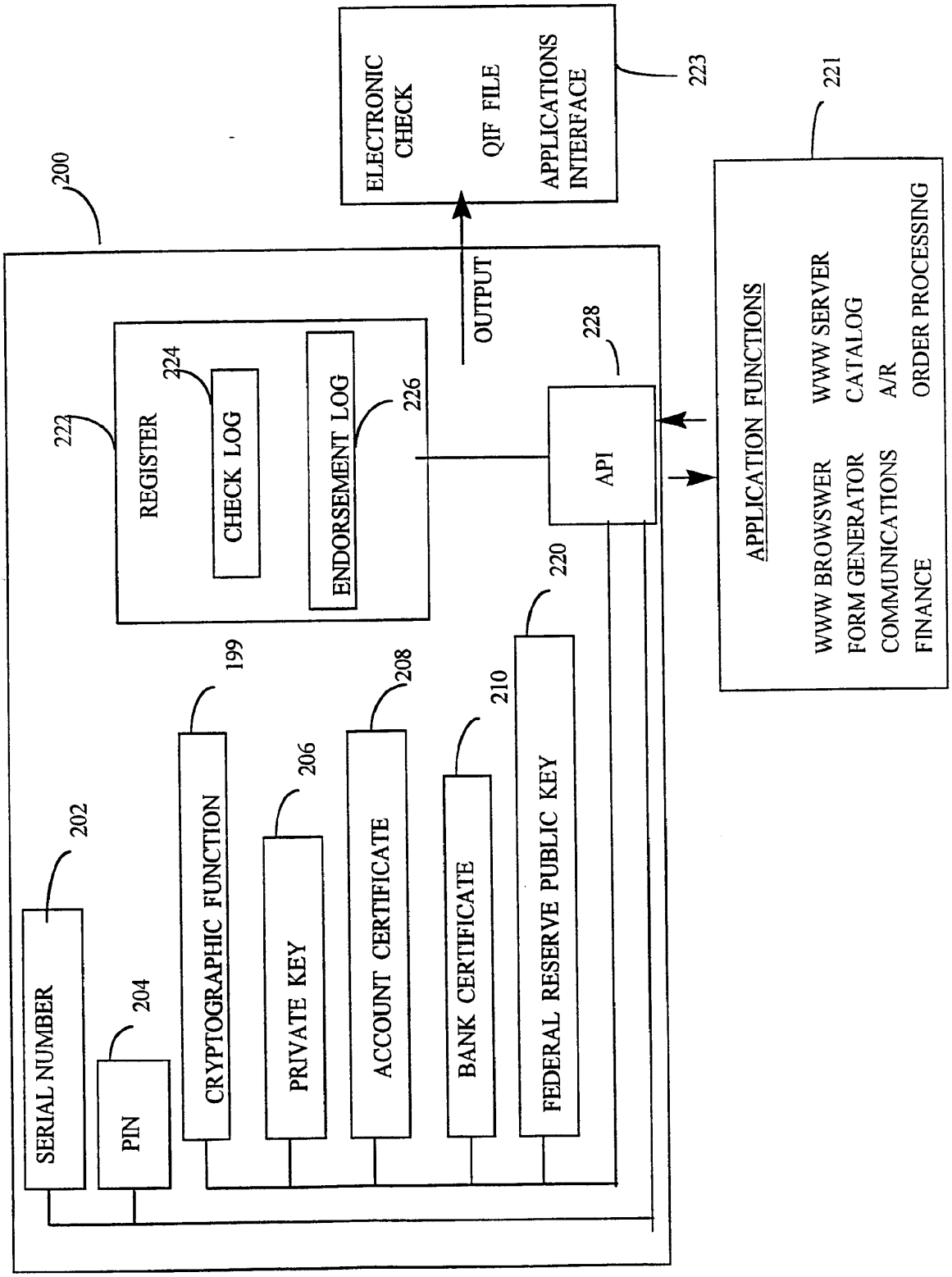


FIG. 9

SUBSTITUTE SHEET (RULE 26)

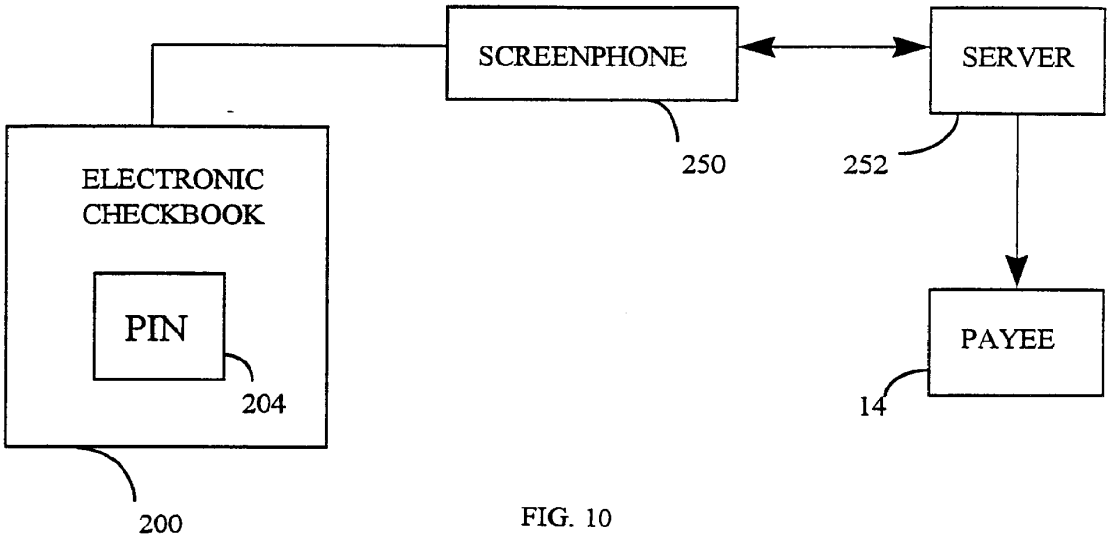

SCREENPHONE
SERVER
ELECTRONIC CHECKBOOK
PIN
204
250
252
PAYEE
14
200

FIG. 10

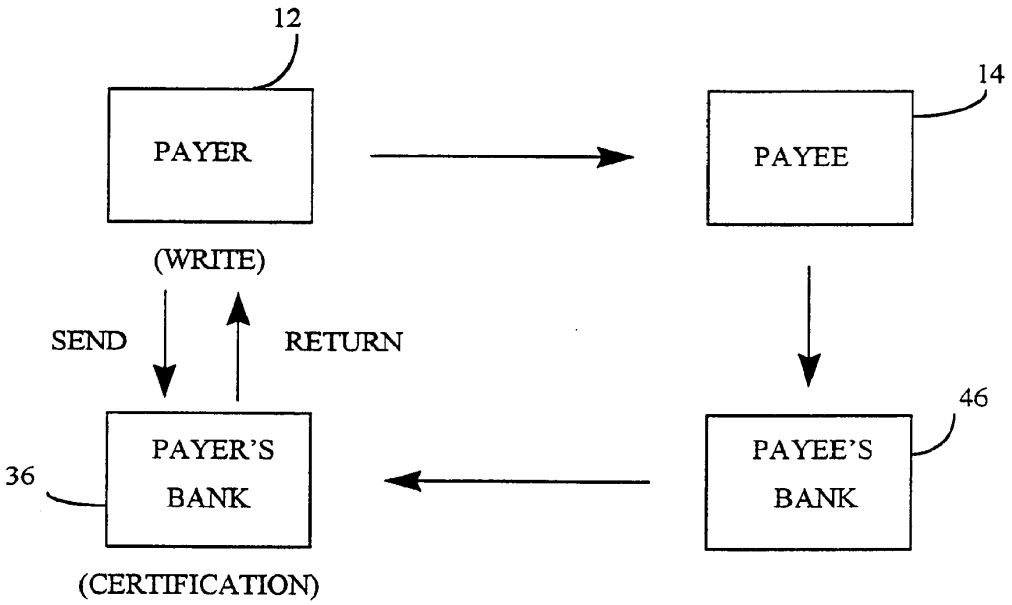

12
PAYER
(WRITE)
SEND
RETURN
14
PAYEE
46
PAYEE'S BANK
PAYER'S BANK
36
(CERTIFICATION)

FIG. 11

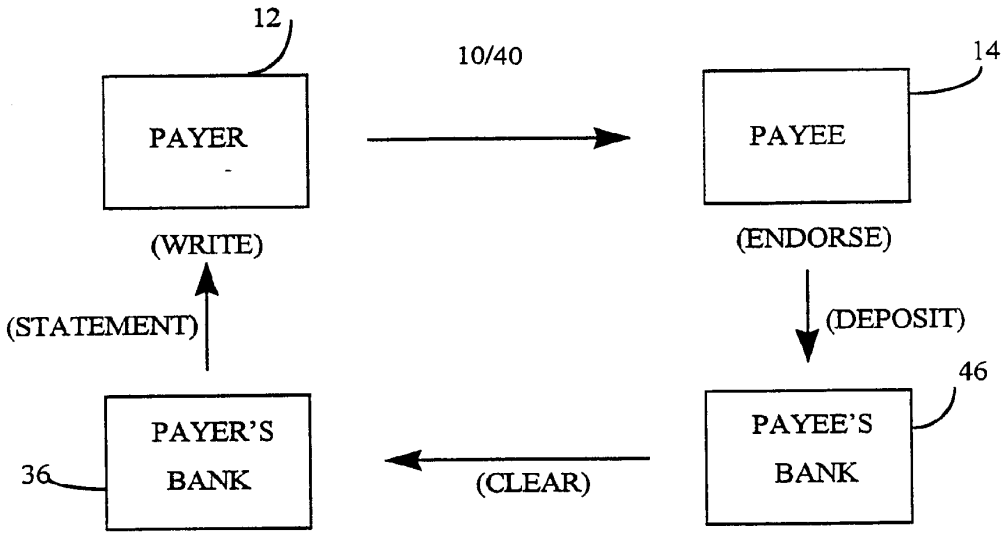

12
10/40
14
PAYER
PAYEE
(WRITE)
(ENDORSE)
(STATEMENT)
(DEPOSIT)
46
PAYER'S BANK
PAYEE'S BANK
36
(CLEAR)

FIG. 12

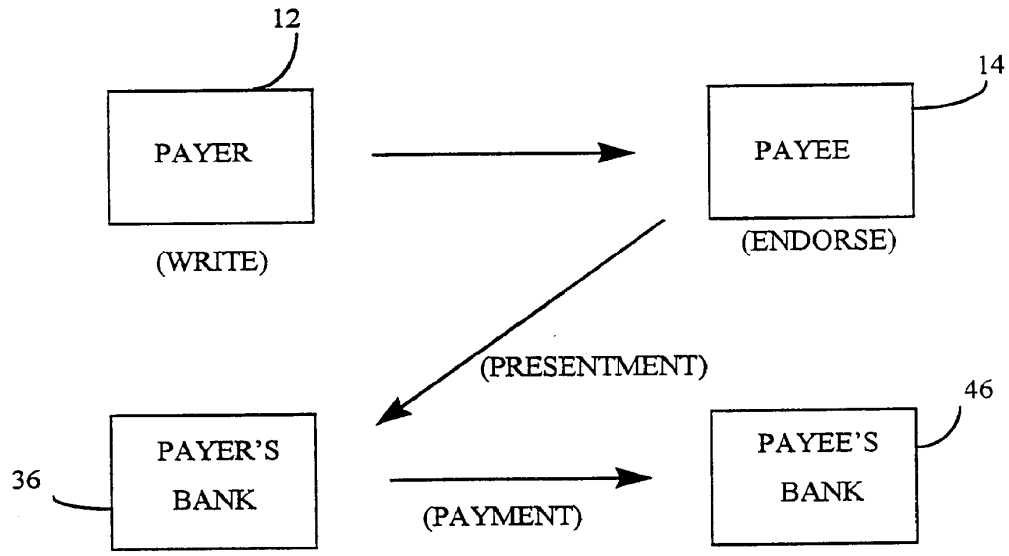

12
14
PAYER
PAYEE
(WRITE)
(ENDORSE)
(PRESENTMENT)
46
PAYER'S BANK
PAYEE'S BANK
36
(PAYMENT)

FIG. 13

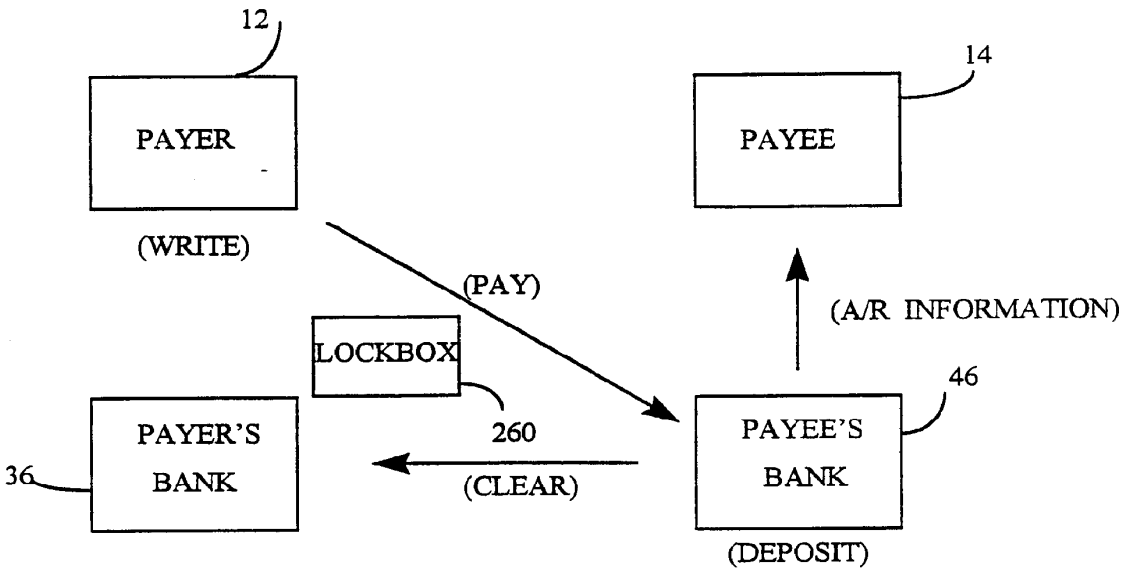

12
PAYER
(WRITE)
14
PAYEE
(PAY)
(A/R INFORMATION)
LOCKBOX
260
46
PAYER'S BANK
36
(CLEAR)
PAYEE'S BANK
(DEPOSIT)

FIG. 14

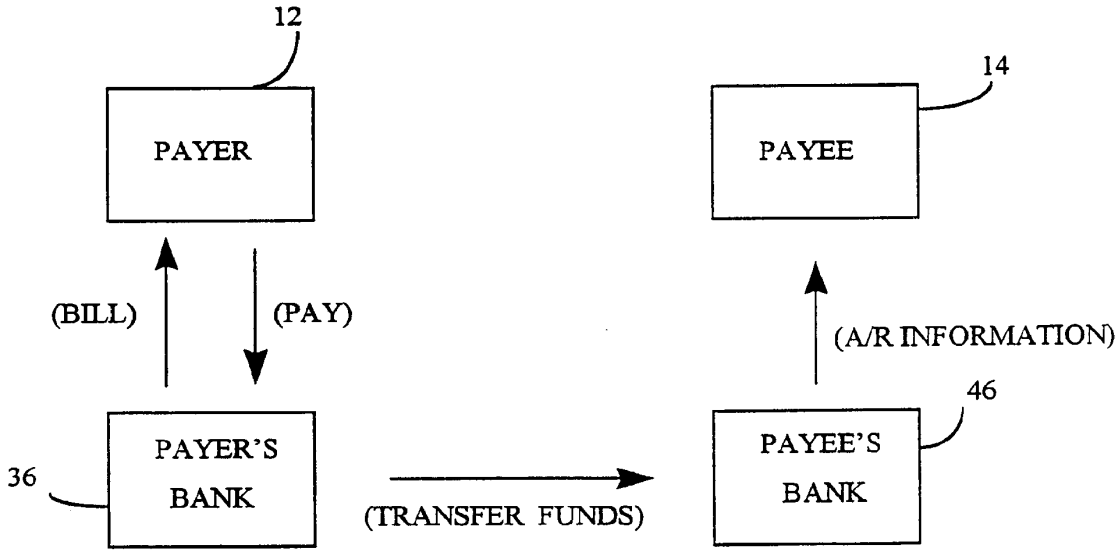

12
PAYER
14
PAYEE
(BILL)
(PAY)
(A/R INFORMATION)
46
36
PAYER'S BANK
(TRANSFER FUNDS)
PAYEE'S BANK

FIG. 15

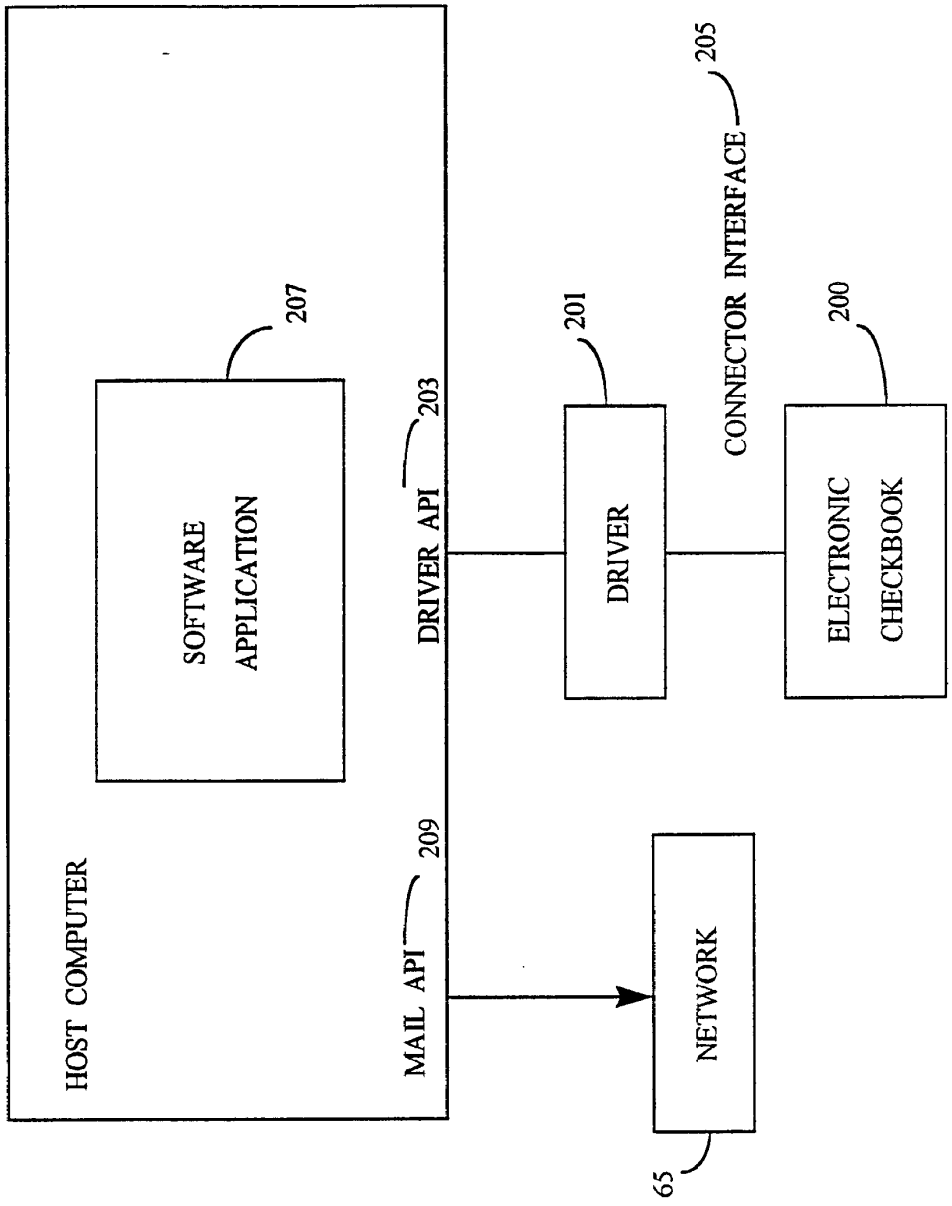

HOST COMPUTER
SOFTWARE APPLICATION
207
DRIVER API
203
MAIL API
209
DRIVER
201
CONNECTOR INTERFACE
205
ELECTRONIC CHECKBOOK
200
NETWORK
65

FIG. 16

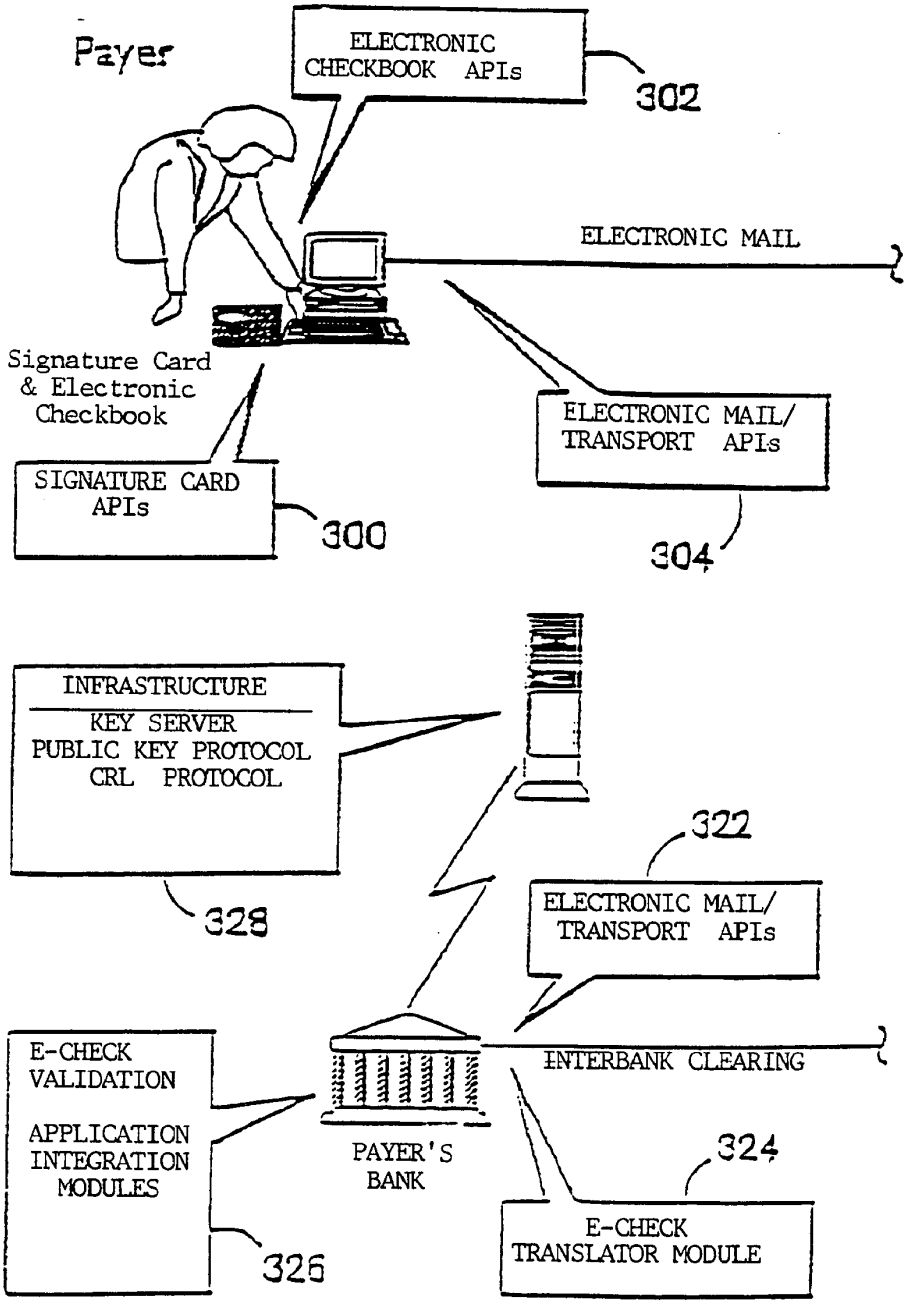

Payer
ELECTRONIC CHECKBOOK APIs
302
ELECTRONIC MAIL
Signature Card & Electronic Checkbook
ELECTRONIC MAIL/ TRANSPORT APIs
SIGNATURE CARD APIs
300
304
INFRASTRUCTURE
KEY SERVER
PUBLIC KEY PROTOCOL
CRL PROTOCOL
328
322
ELECTRONIC MAIL/ TRANSPORT APIs
E-CHECK VALIDATION
APPLICATION INTEGRATION MODULES
326
INTERBANK CLEARING
PAYER'S BANK
324
E-CHECK TRANSLATOR MODULE

FIG. 17A

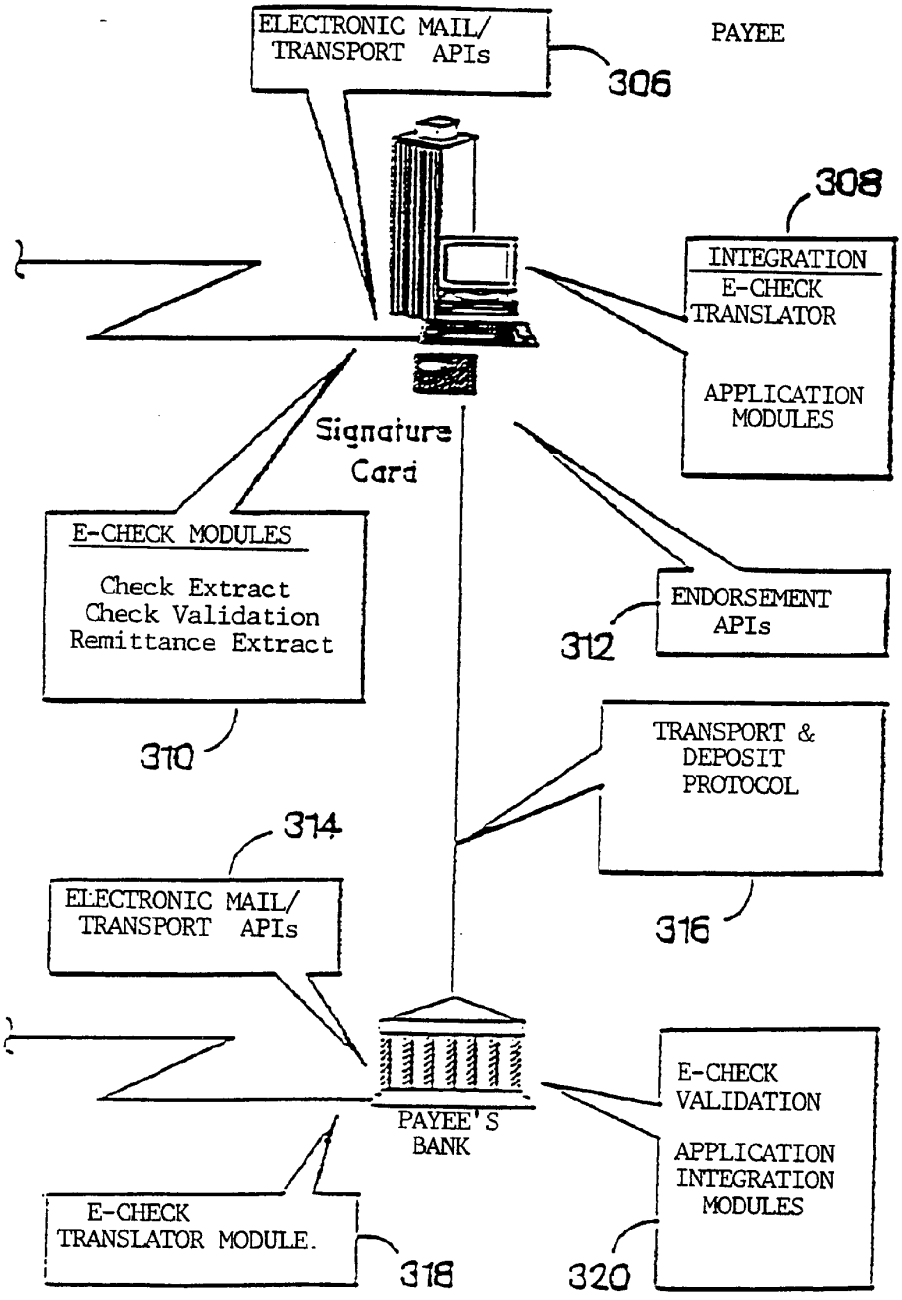

ELECTRONIC MAIL/
TRANSPORT APIs
306
PAYEE
308
INTEGRATION
E-CHECK
TRANSLATOR
APPLICATION
MODULES
Signature
Card
E-CHECK MODULES
Check Extract
Check Validation
Remittance Extract
310
ENDORSEMENT
APIs
312
TRANSPORT &
DEPOSIT
PROTOCOL
316
314
ELECTRONIC MAIL/
TRANSPORT APIs
PAYEE'S
BANK
E-CHECK
VALIDATION
APPLICATION
INTEGRATION
MODULES
320
E-CHECK
TRANSLATOR MODULE.
318

FIG. 17B

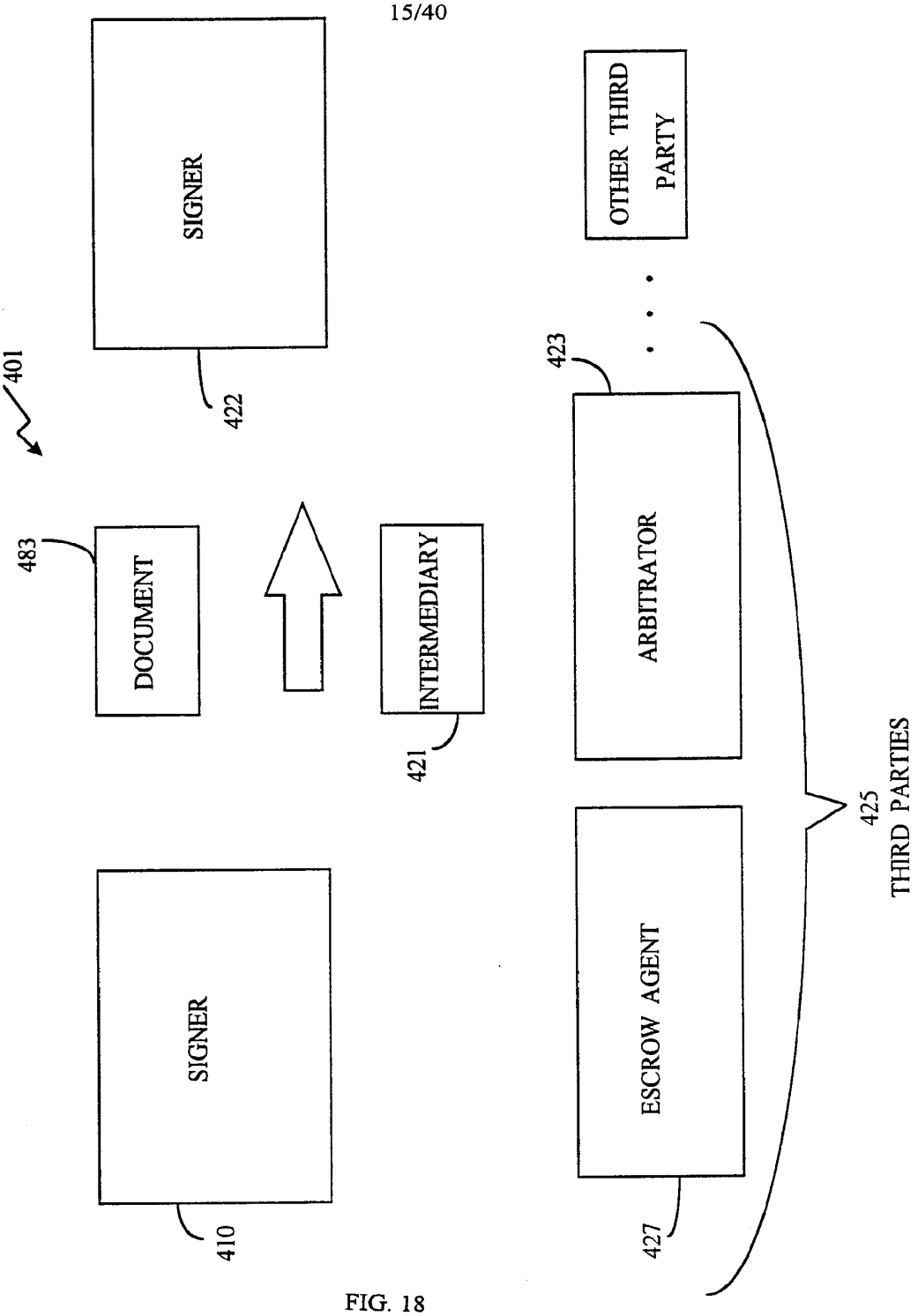

SIGNER
422
401
483
DOCUMENT
INTERMEDIARY
421
SIGNER
410
OTHER THIRD PARTY
423
ARBITRATOR
ESCROW AGENT
427
425
THIRD PARTIES

FIG. 18

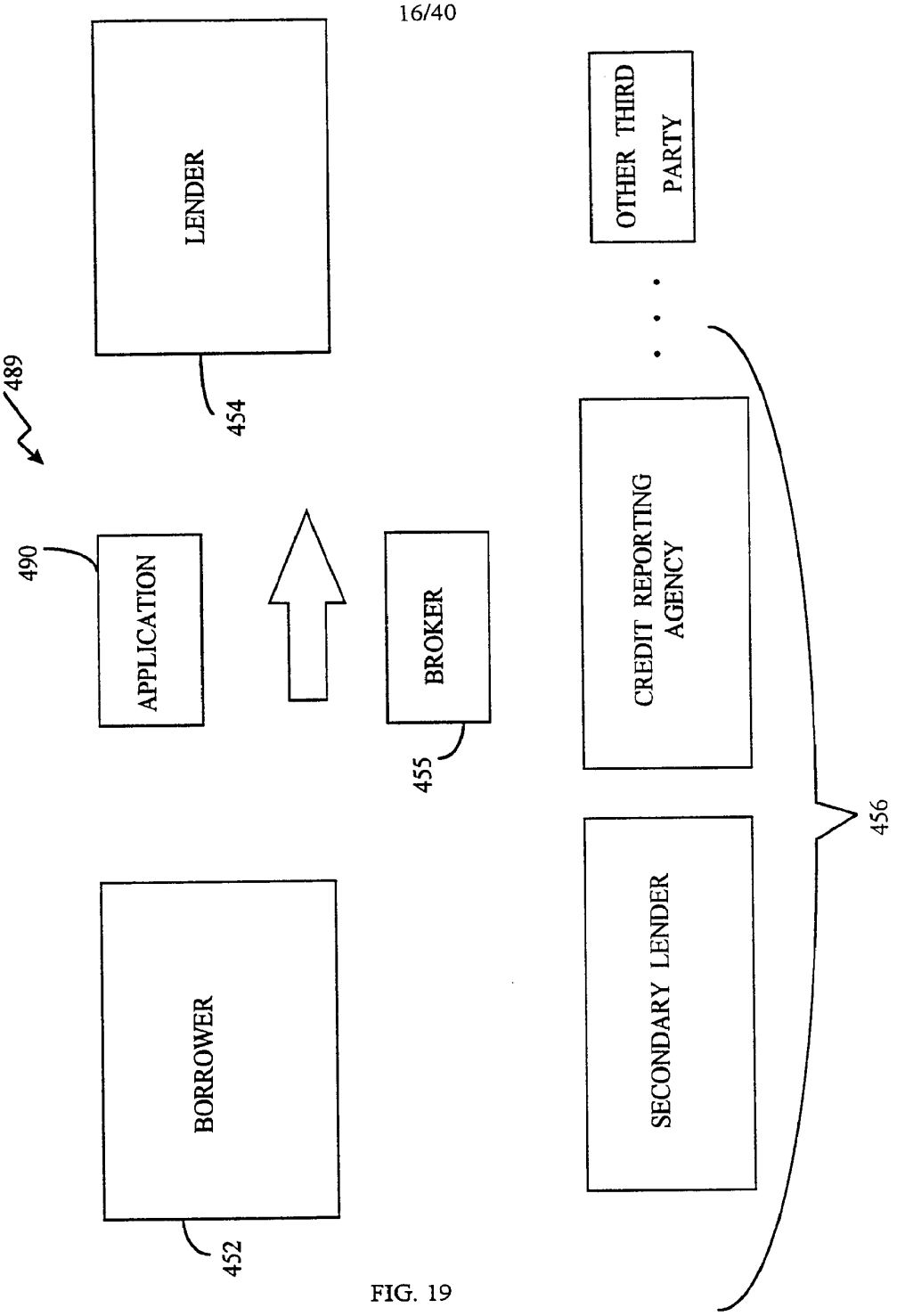

LENDER
454
489
490
APPLICATION
BROKER
455
BORROWER
452
OTHER THIRD PARTY
CREDIT REPORTING AGENCY
SECONDARY LENDER
456

FIG. 19

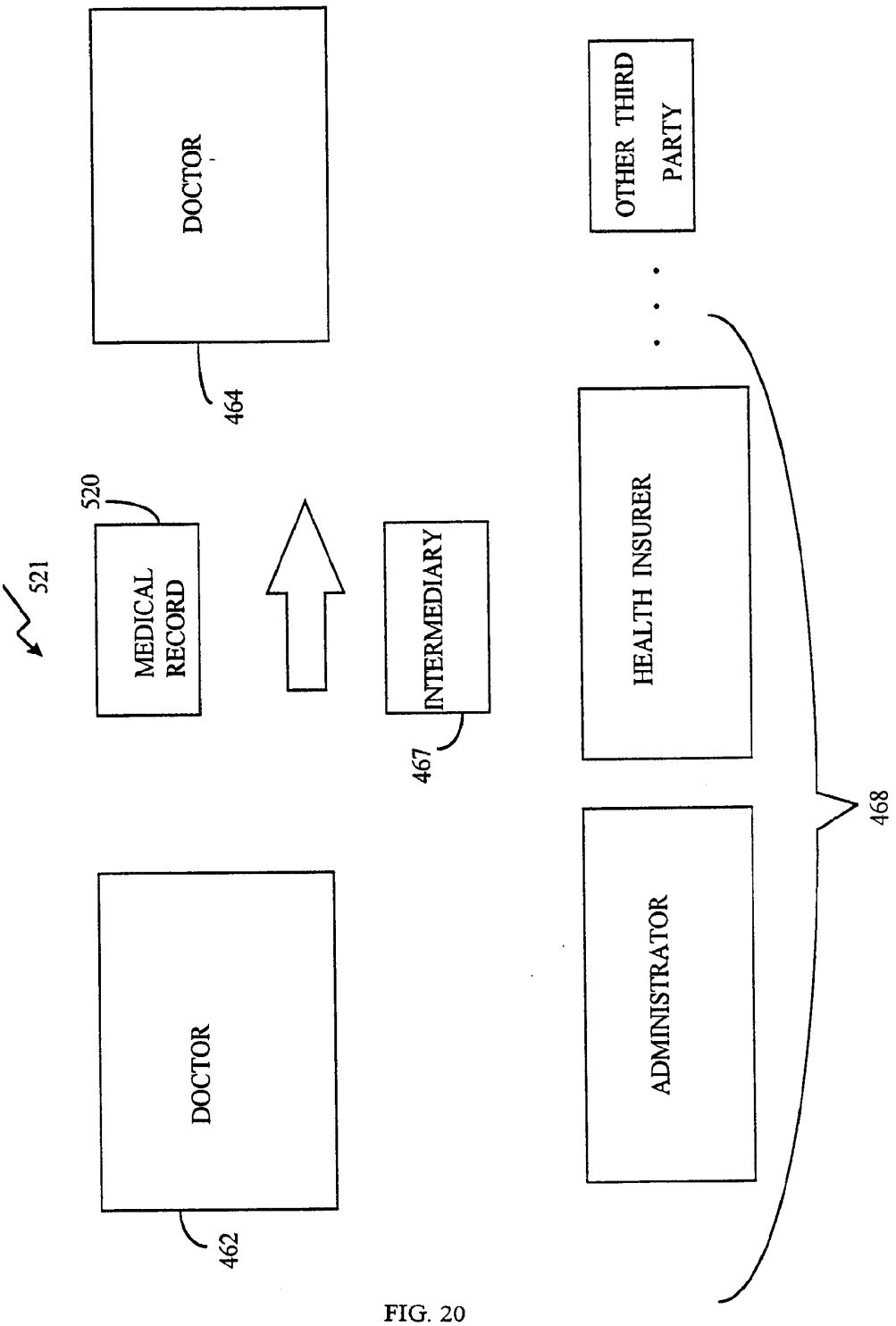

DOCTOR
464
OTHER THIRD PARTY
520
MEDICAL RECORD
521
INTERMEDIARY
467
HEALTH INSURER
468
ADMINISTRATOR
DOCTOR
462

FIG. 20

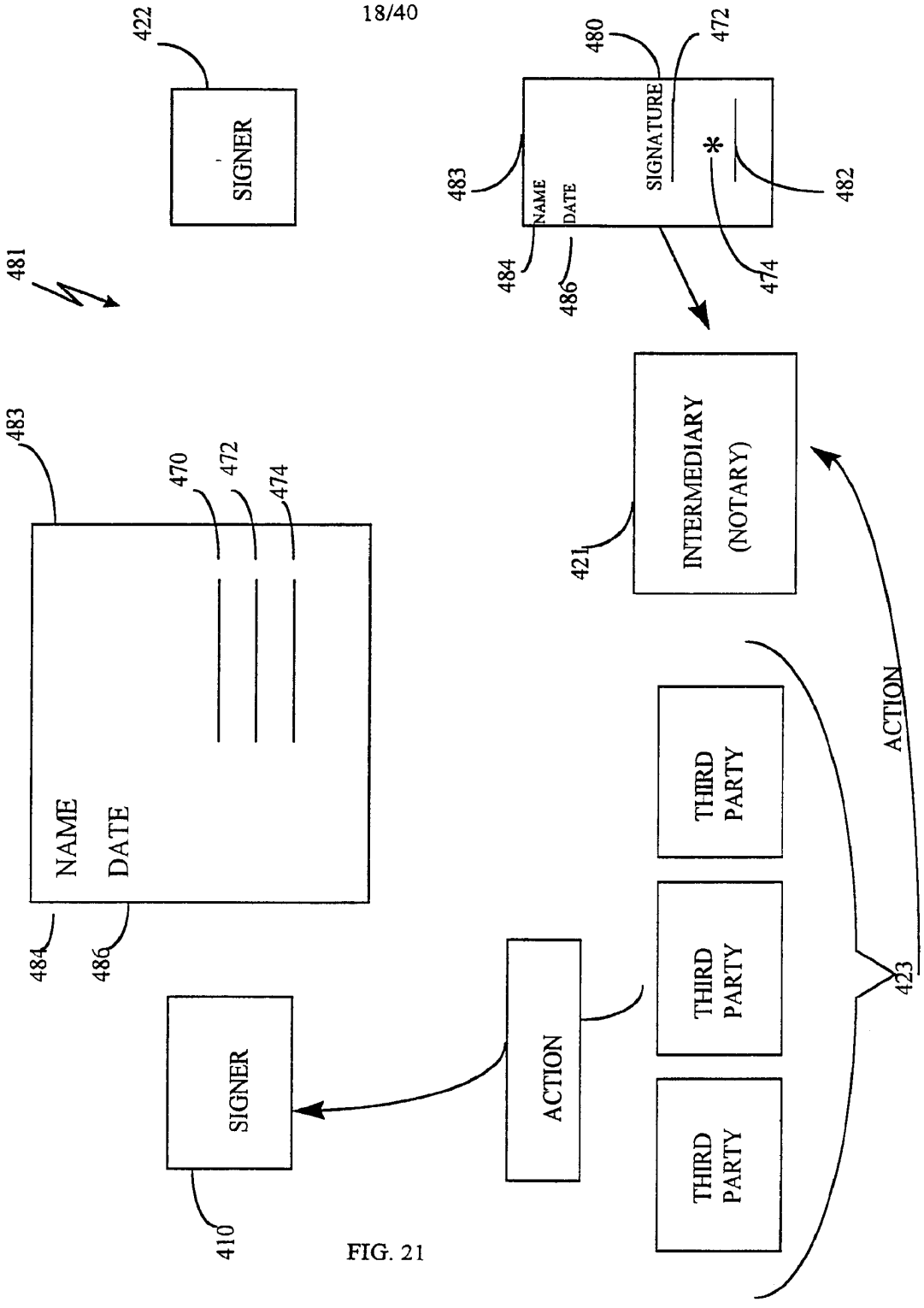

422
SIGNER
481
483
470
472
474
NAME
DATE
484
486
480
472
SIGNATURE
483
NAME
DATE
482
484
486
474
INTERMEDIARY
(NOTARY)
421
ACTION
THIRD PARTY
THIRD PARTY
THIRD PARTY
423
ACTION
SIGNER
410

FIG. 21

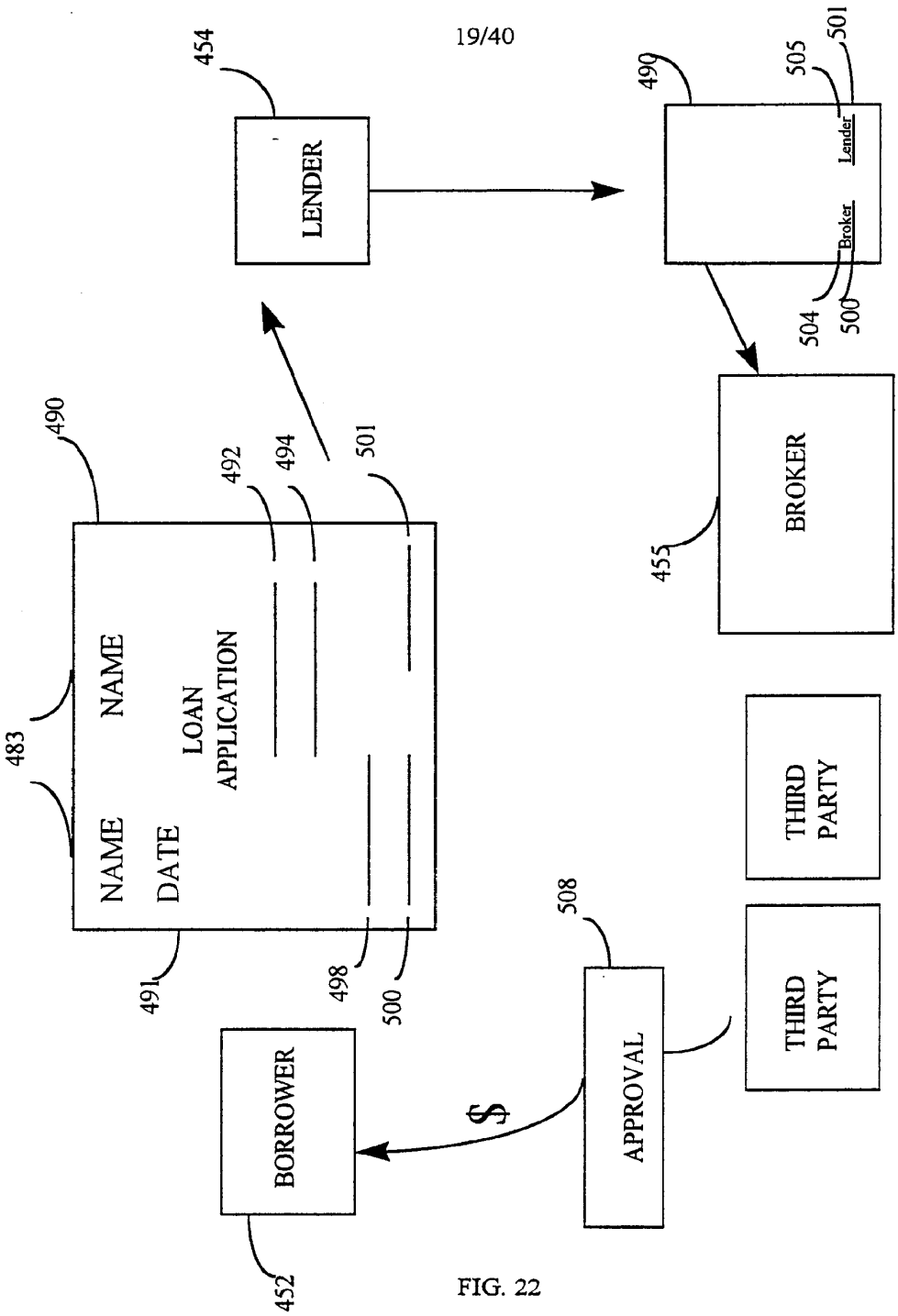

454
LENDER
490
505
501
Lender
Broker
504
500
BROKER
455
490
492
494
501
483
NAME
NAME
LOAN
APPLICATION
NAME
DATE
491
498
500
508
THIRD
PARTY
THIRD
PARTY
APPROVAL
$
BORROWER
452

FIG. 22

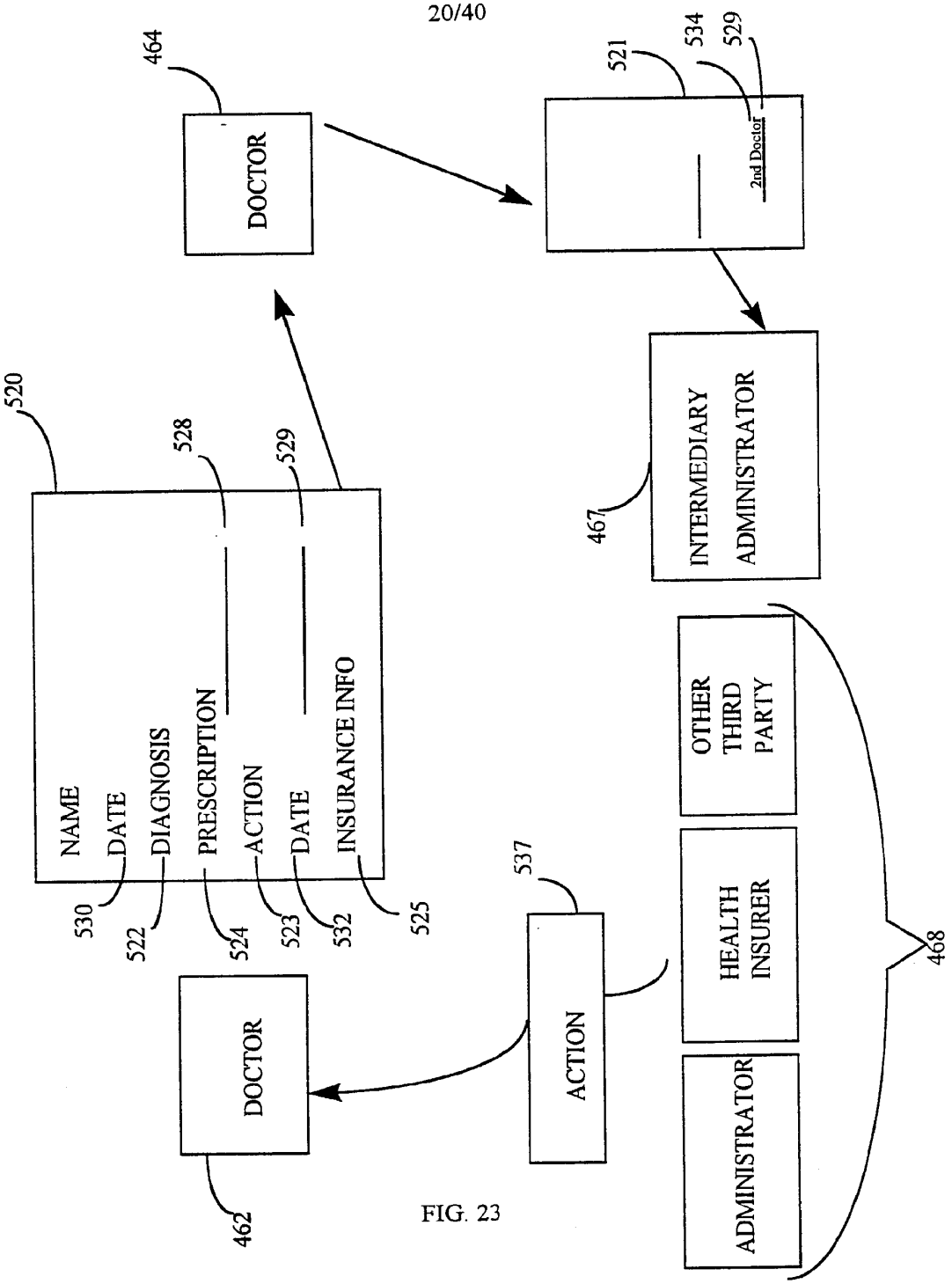

464
DOCTOR
521
534
529
2nd Doctor
467
INTERMEDIARY ADMINISTRATOR
520
528
529
NAME
DATE
DIAGNOSIS
PRESCRIPTION
ACTION
DATE
INSURANCE INFO
530
522
524
523
532
525
537
OTHER THIRD PARTY
HEALTH INSURER
ADMINISTRATOR
468
DOCTOR
ACTION
462

FIG. 23

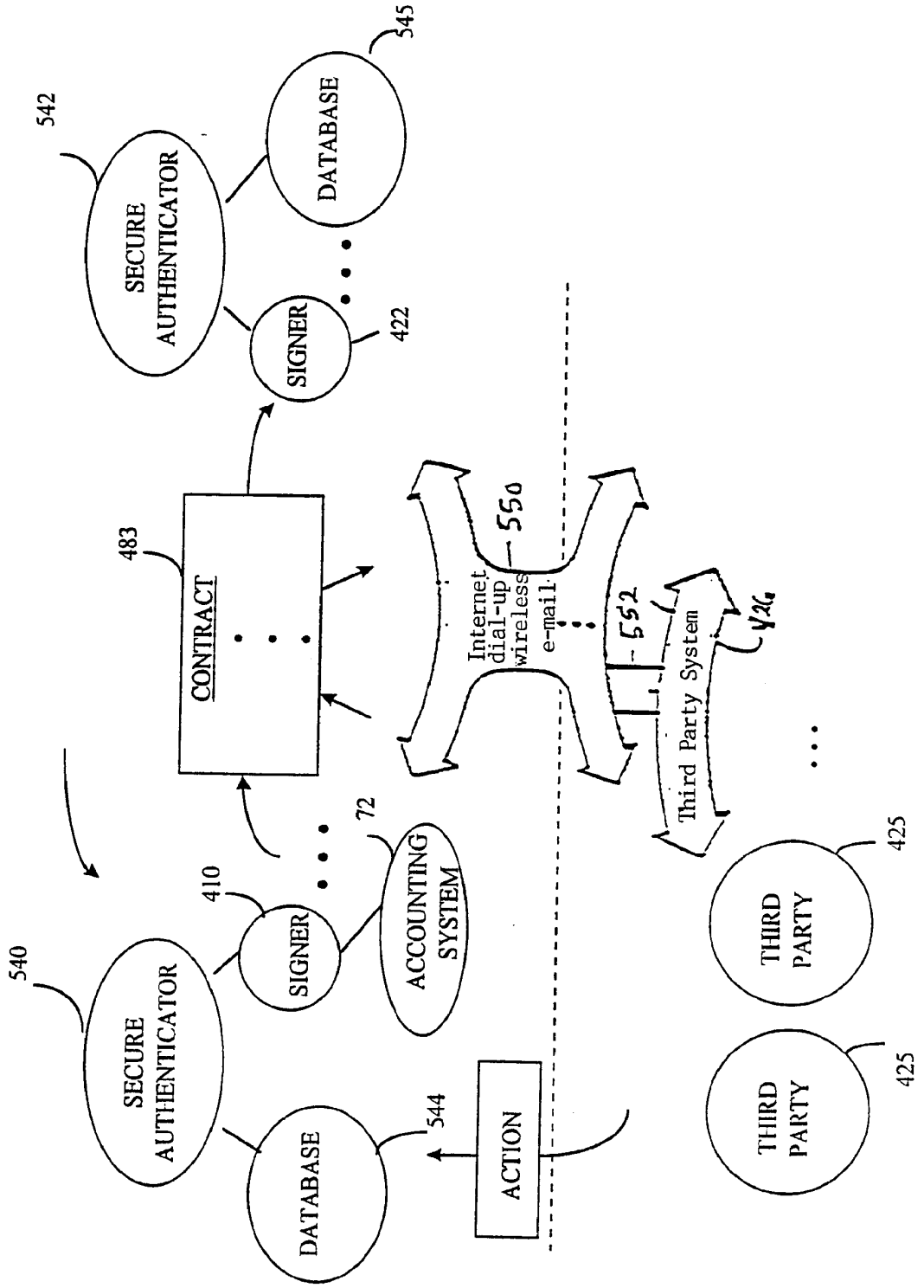

542
SECURE AUTHENTICATOR
545
DATABASE
SIGNER
422
483
CONTRACT
550
Internet
dial-up
wireless
e-mail
552
Third Party System
426
410
SIGNER
72
ACCOUNTING SYSTEM
540
SECURE AUTHENTICATOR
DATABASE
544
ACTION
THIRD PARTY
425
THIRD PARTY
425

FIG. 24

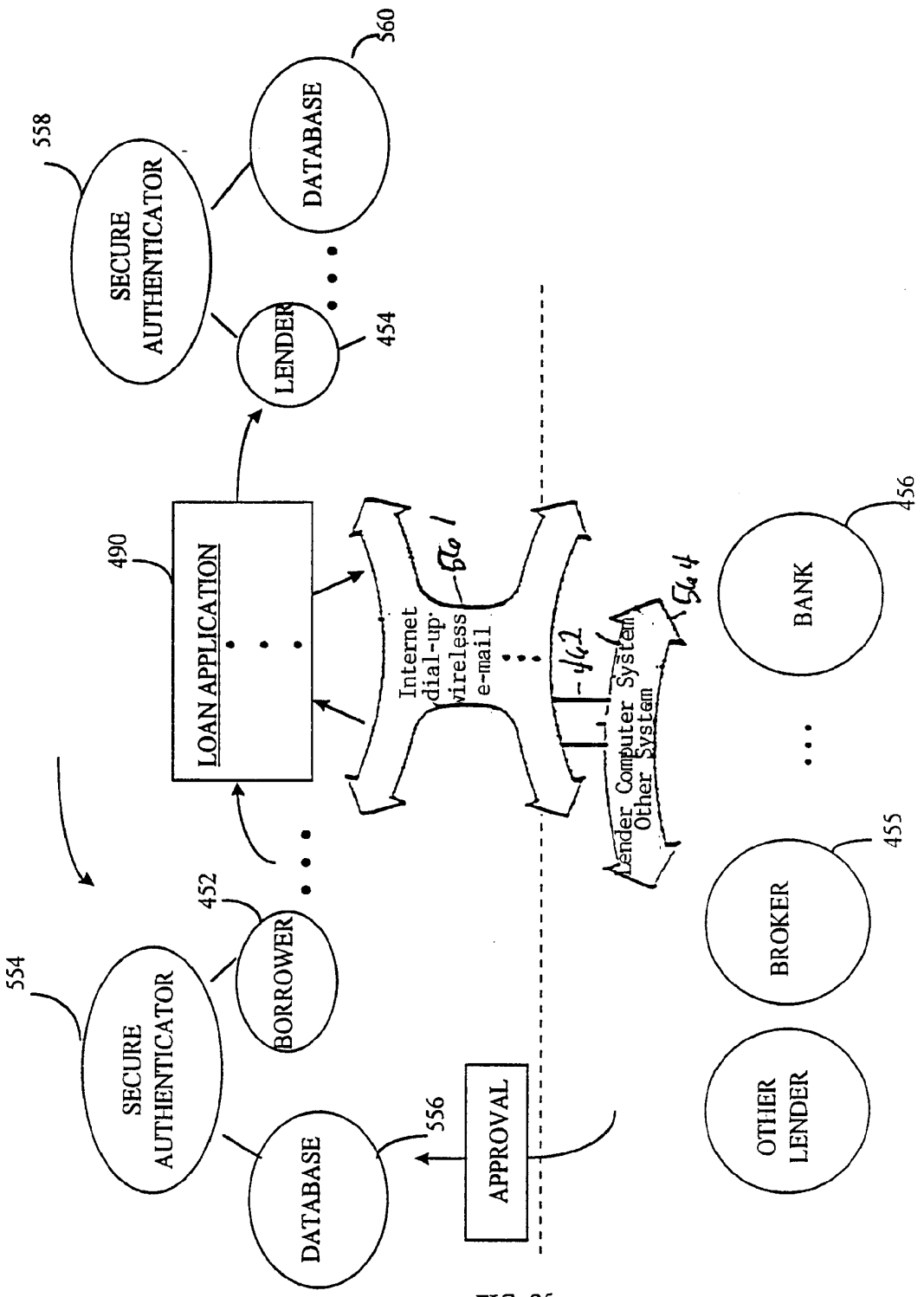

SECURE AUTHENTICATOR
558
DATABASE
560
LENDER
454
LOAN APPLICATION
490
Internet
dial-up
wireless
e-mail
Lender Computer System
Other System
BANK
456
BROKER
455
OTHER LENDER
SECURE AUTHENTICATOR
554
BORROWER
452
DATABASE
APPROVAL
556

FIG. 25

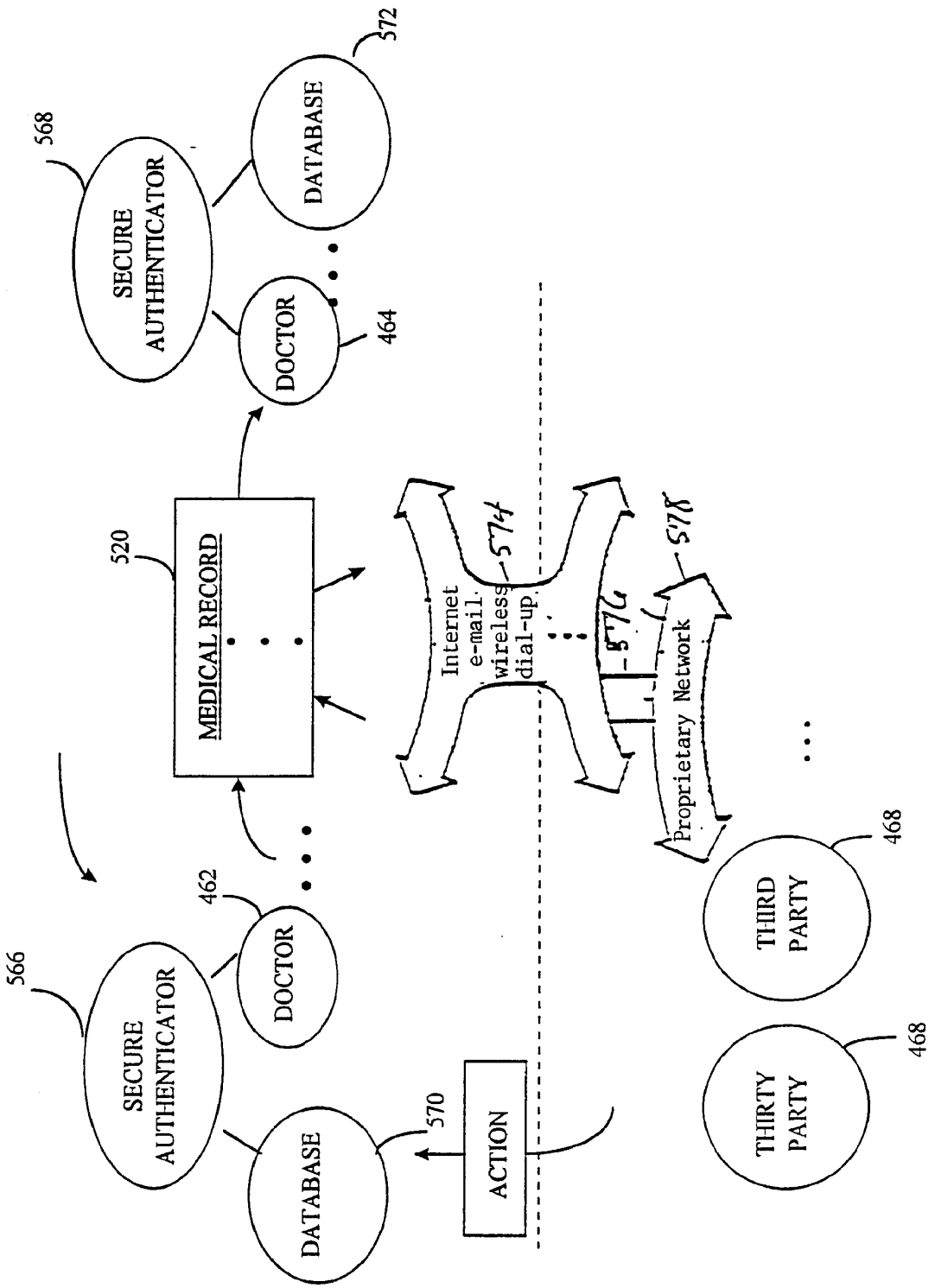

SECURE AUTHENTICATOR
568
DATABASE
572
DOCTOR
464
MEDICAL RECORD
520
Internet
e-mail
wireless
dial-up
574
576
578
Proprietary Network
THIRD PARTY
468
THIRTY PARTY
468
SECURE AUTHENTICATOR
566
DOCTOR
462
DATABASE
570
ACTION

FIG. 26

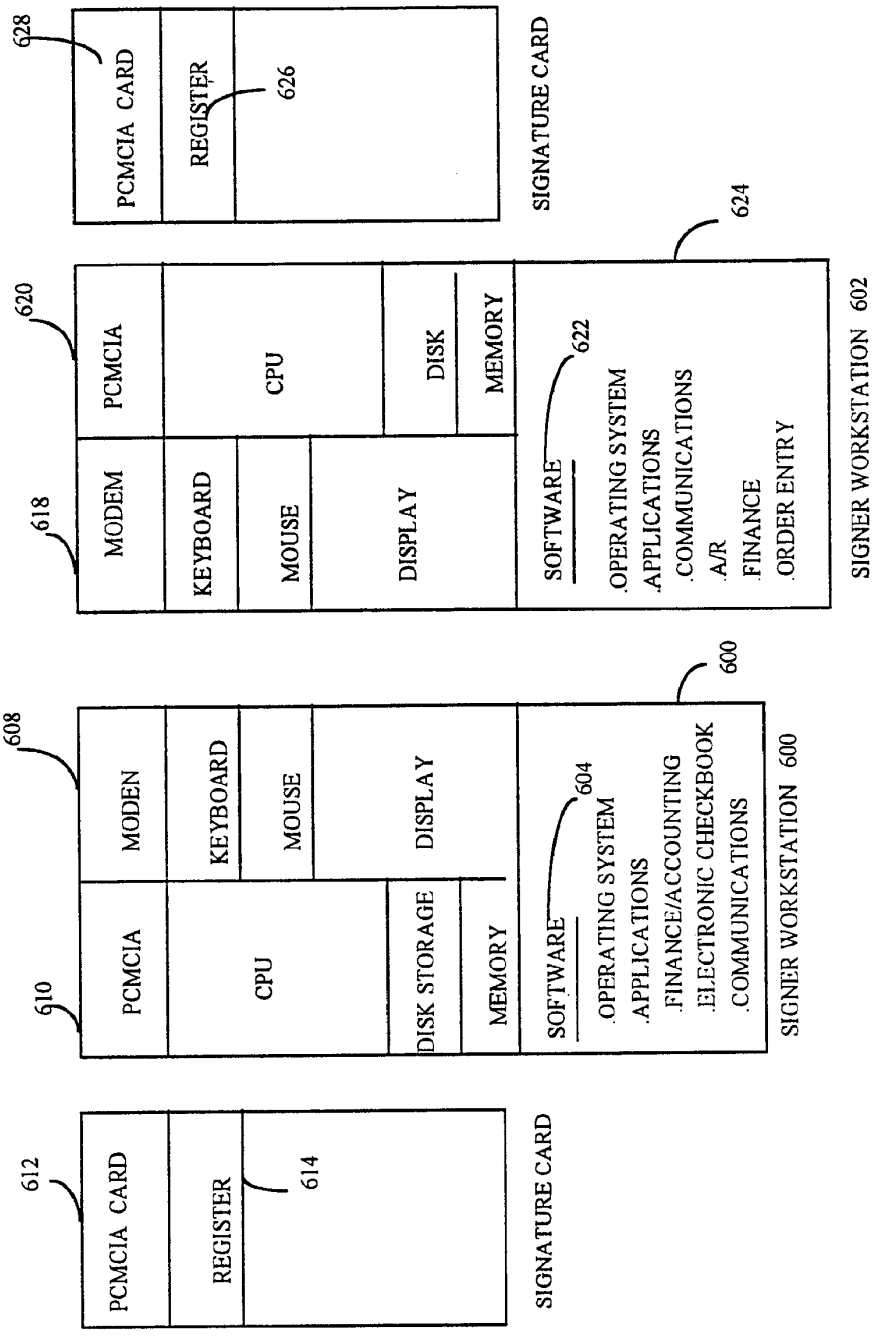

628
PCMCIA CARD
REGISTER
626
SIGNATURE CARD
620
PCMCIA
CPU
DISK
MEMORY
MODEM
KEYBOARD
MOUSE
DISPLAY
618
624
SOFTWARE
622
.OPERATING SYSTEM
.APPLICATIONS
.COMMUNICATIONS
.A/R
.FINANCE
.ORDER ENTRY
SIGNER WORKSTATION 602
608
MODEN
KEYBOARD
MOUSE
DISPLAY
PCMCIA
CPU
DISK STORAGE
MEMORY
610
600
SOFTWARE
604
.OPERATING SYSTEM
.APPLICATIONS
.FINANCE/ACCOUNTING
.ELECTRONIC CHECKBOOK
.COMMUNICATIONS
SIGNER WORKSTATION 600
612
PCMCIA CARD
REGISTER
614
SIGNATURE CARD

FIG. 27

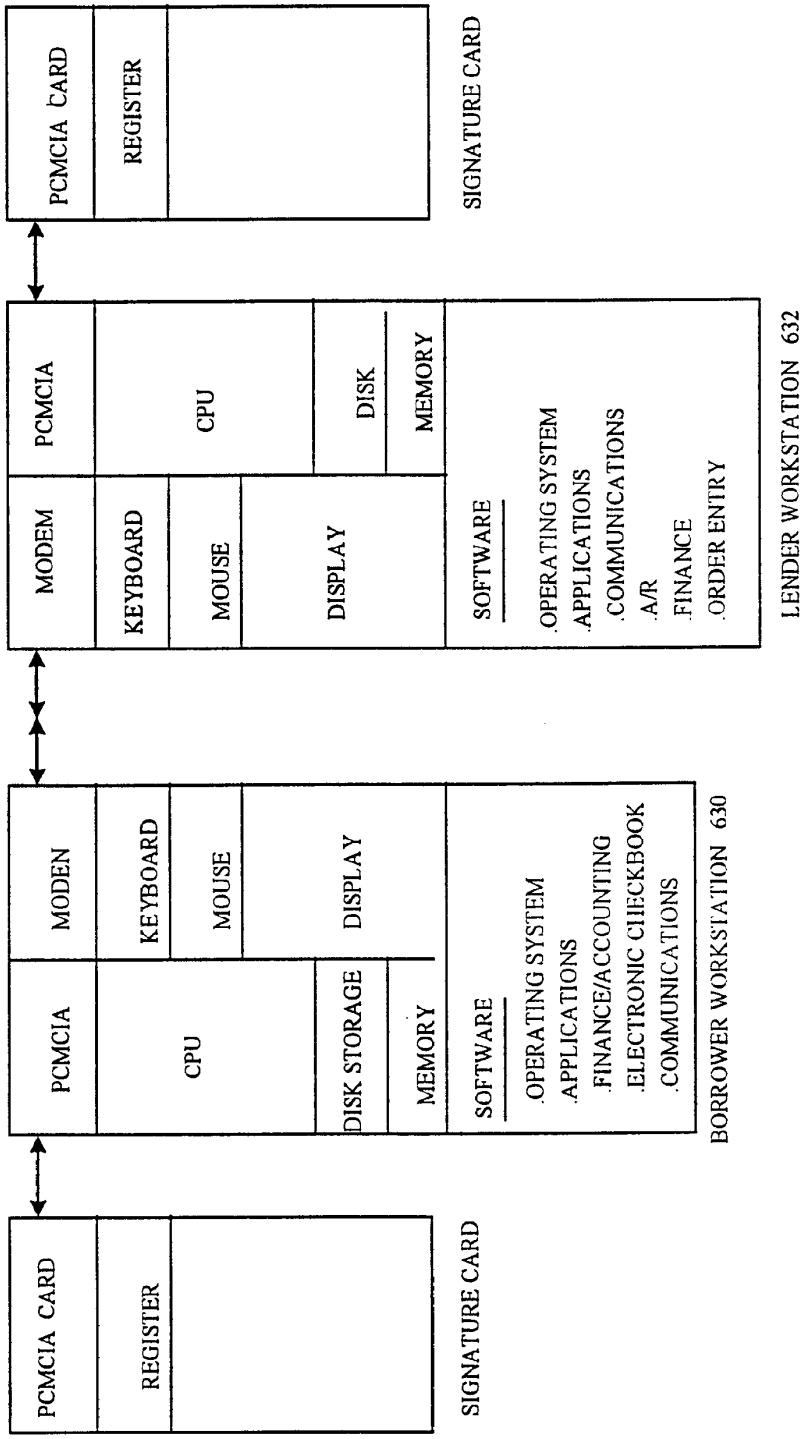

PCMCIA CARD
REGISTER
SIGNATURE CARD
PCMCIA
MODEM
CPU
KEYBOARD
MOUSE
DISPLAY
DISK
MEMORY
SOFTWARE
.OPERATING SYSTEM
.APPLICATIONS
.COMMUNICATIONS
.A/R
.FINANCE
.ORDER ENTRY
LENDER WORKSTATION 632
PCMCIA CARD
REGISTER
SIGNATURE CARD
PCMCIA
MODEN
CPU
KEYBOARD
MOUSE
DISPLAY
DISK STORAGE
MEMORY
SOFTWARE
.OPERATING SYSTEM
.APPLICATIONS
.FINANCE/ACCOUNTING
.ELECTRONIC CHECKBOOK
.COMMUNICATIONS
BORROWER WORKSTATION 630

FIG. 28

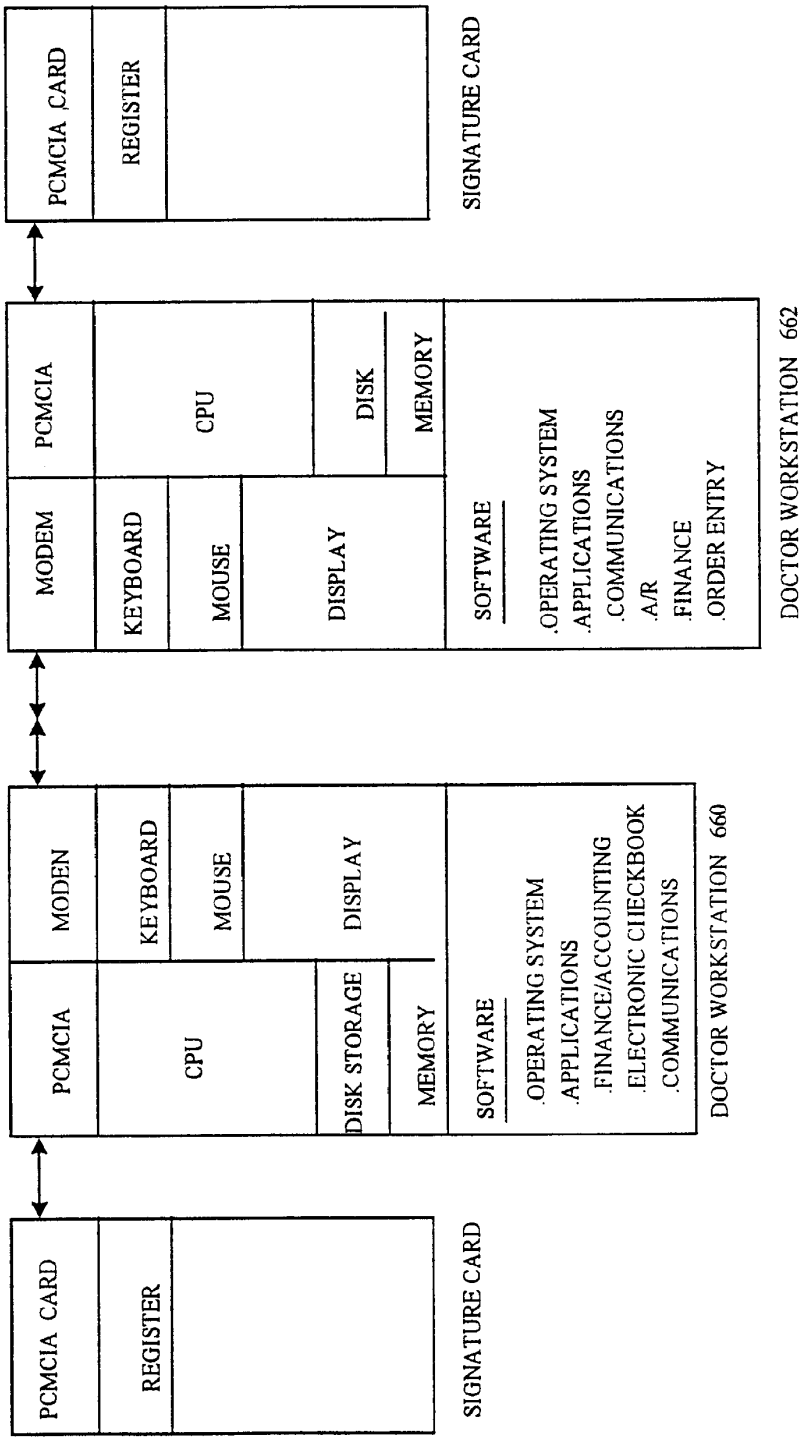

PCMCIA CARD
REGISTER
SIGNATURE CARD
PCMCIA
MODEM
CPU
DISK
MEMORY
KEYBOARD
MOUSE
DISPLAY
SOFTWARE
.OPERATING SYSTEM
.APPLICATIONS
.COMMUNICATIONS
.A/R
.FINANCE
.ORDER ENTRY
DOCTOR WORKSTATION 662
PCMCIA
MODEN
CPU
DISK STORAGE
MEMORY
KEYBOARD
MOUSE
DISPLAY
SOFTWARE
.OPERATING SYSTEM
.APPLICATIONS
.FINANCE/ACCOUNTING
.ELECTRONIC CHECKBOOK
.COMMUNICATIONS
DOCTOR WORKSTATION 660
PCMCIA CARD
REGISTER
SIGNATURE CARD

FIG. 29

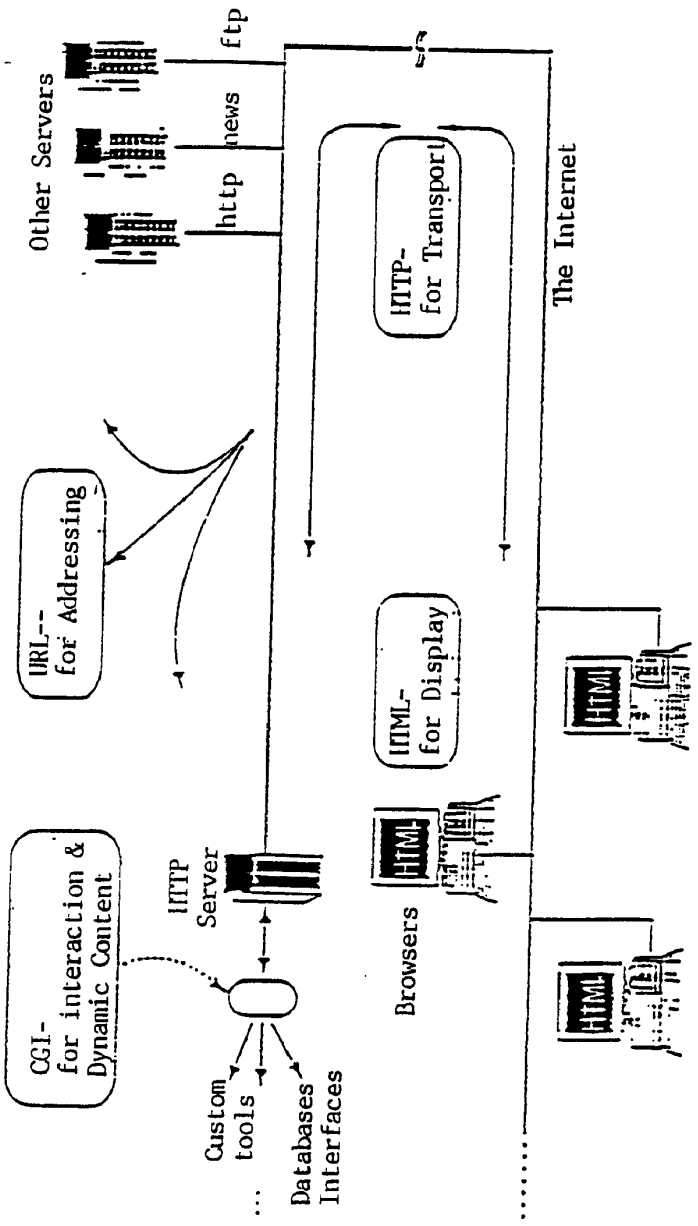

Other Servers
ftp
news
http
The Internet
HTTP-
for Transport
URL--
for Addressing
HTML-
for Display
HTML
HTTP
Server
CGI-
for interaction &
Dynamic Content
Browsers
Custom
tools
Databases
Interfaces

FIG. 30

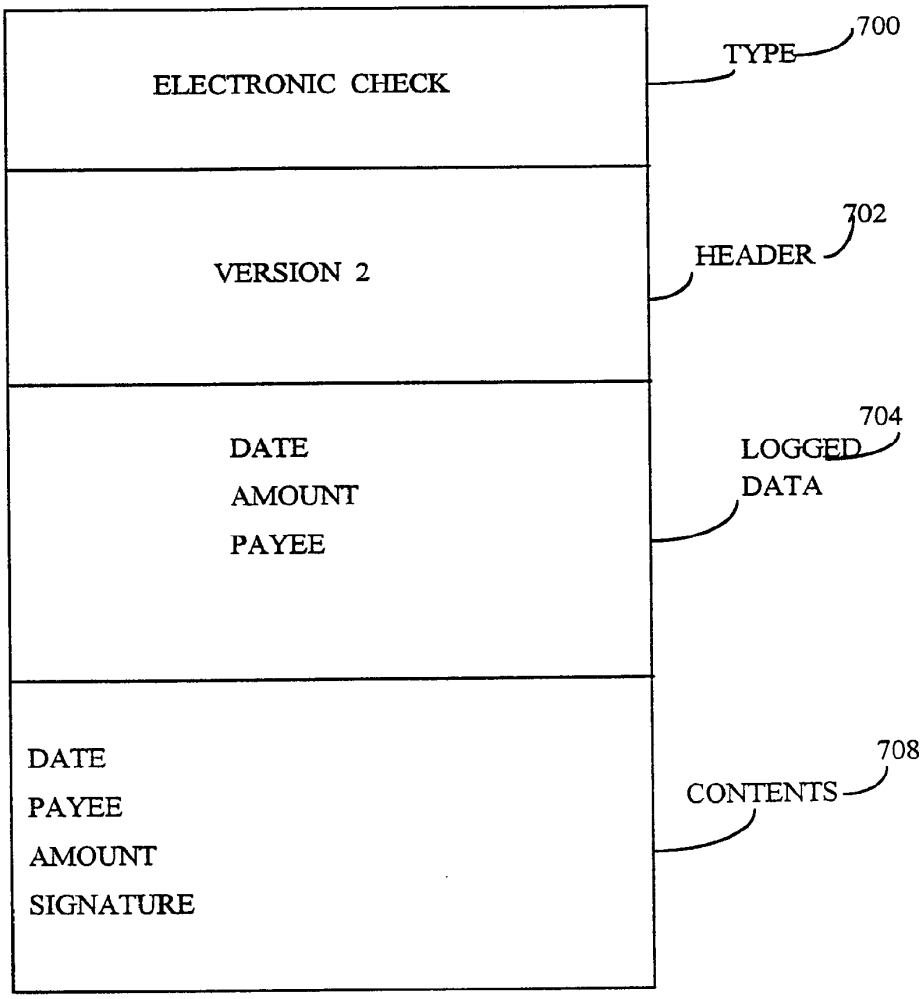

ELECTRONIC CHECK
TYPE
700
VERSION 2
HEADER
702
DATE
AMOUNT
PAYEE
LOGGED DATA
704
DATE
PAYEE
AMOUNT
SIGNATURE
CONTENTS
708

FIG. 31

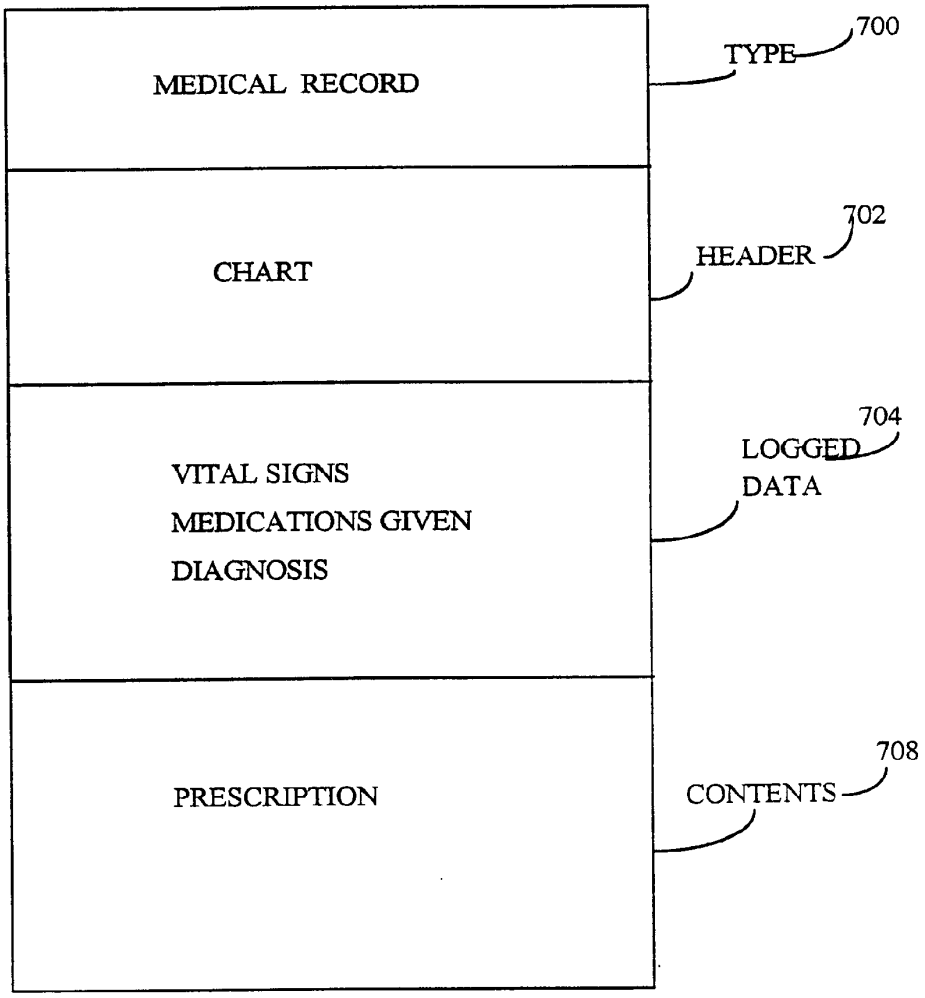

MEDICAL RECORD
TYPE
700
CHART
HEADER
702
VITAL SIGNS
MEDICATIONS GIVEN
DIAGNOSIS
LOGGED DATA
704
PRESCRIPTION
CONTENTS
708

FIG. 32

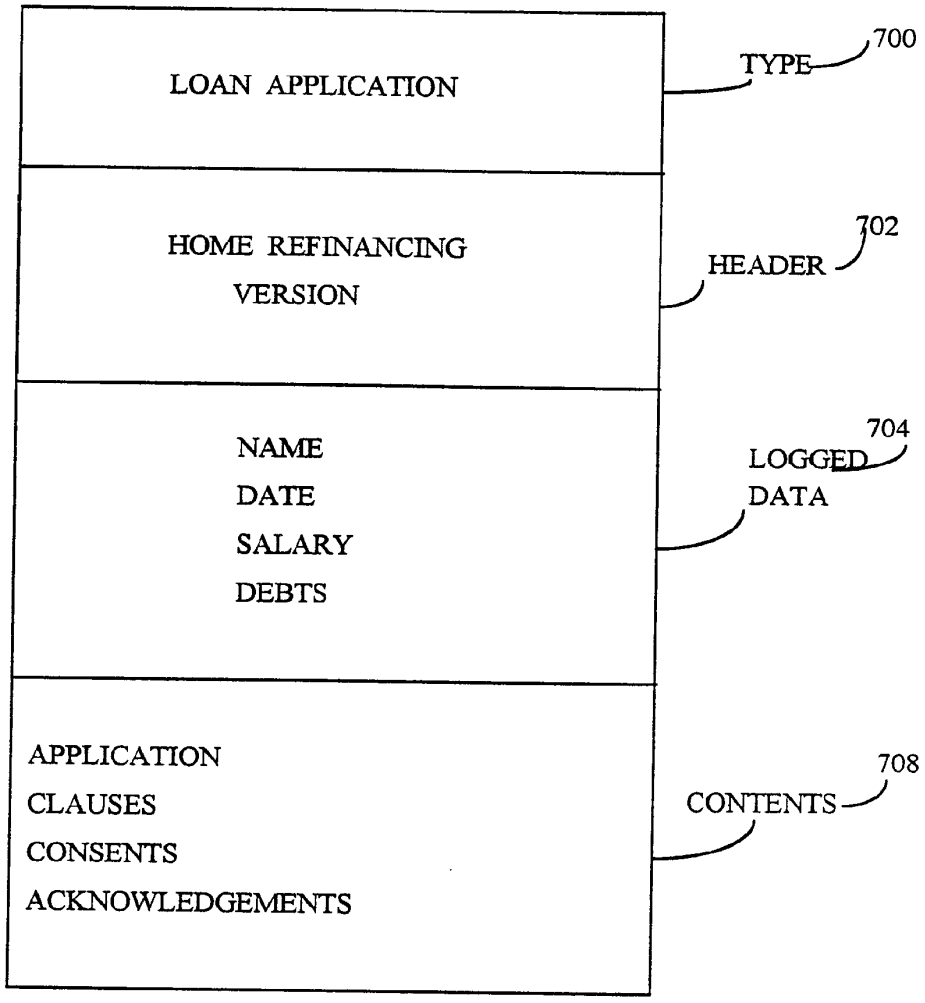

LOAN APPLICATION
TYPE
700
HOME REFINANCING
VERSION
HEADER
702
NAME
DATE
SALARY
DEBTS
LOGGED
DATA
704
APPLICATION
CLAUSES
CONSENTS
ACKNOWLEDGEMENTS
CONTENTS
708

FIG. 33

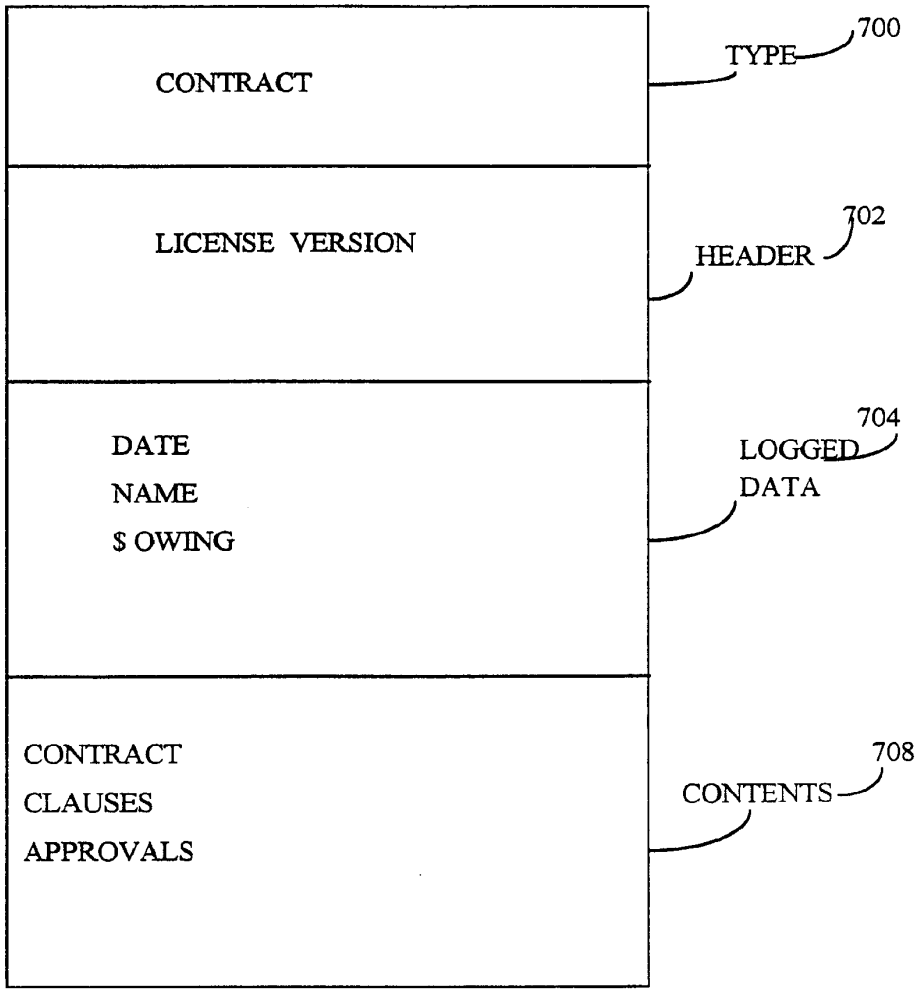

CONTRACT
TYPE
700
LICENSE VERSION
HEADER
702
DATE
NAME
$ OWING
LOGGED DATA
704
CONTRACT
CLAUSES
APPROVALS
CONTENTS
708

FIG. 34

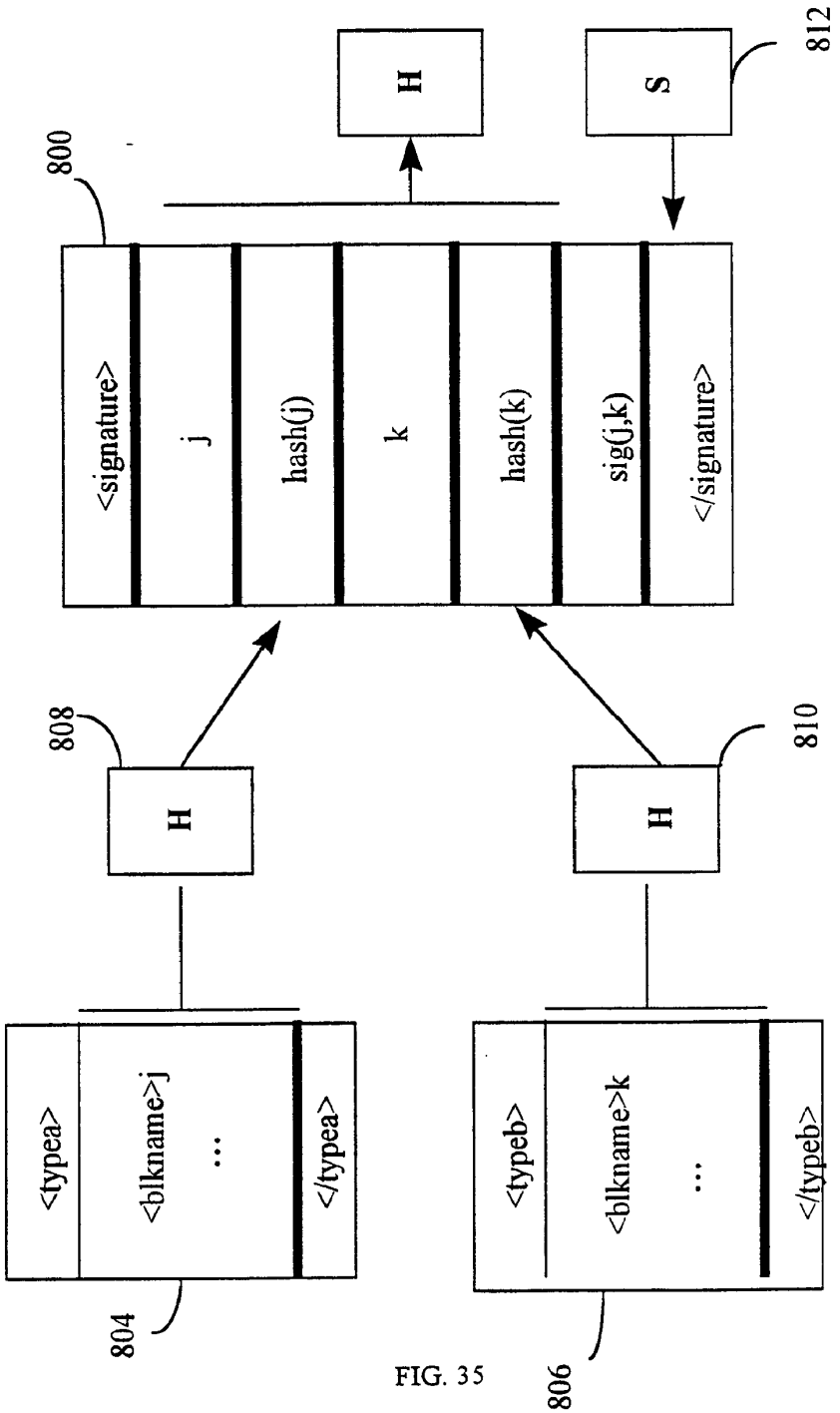

H
S
812
800
<signature>
j
hash(j)
k
hash(k)
sig(j,k)
</signature>
808
810
H
H
<typea>
<blkname>j
...
</typea>
<typeb>
<blkname>k
...
</typeb>
804
806

FIG. 35

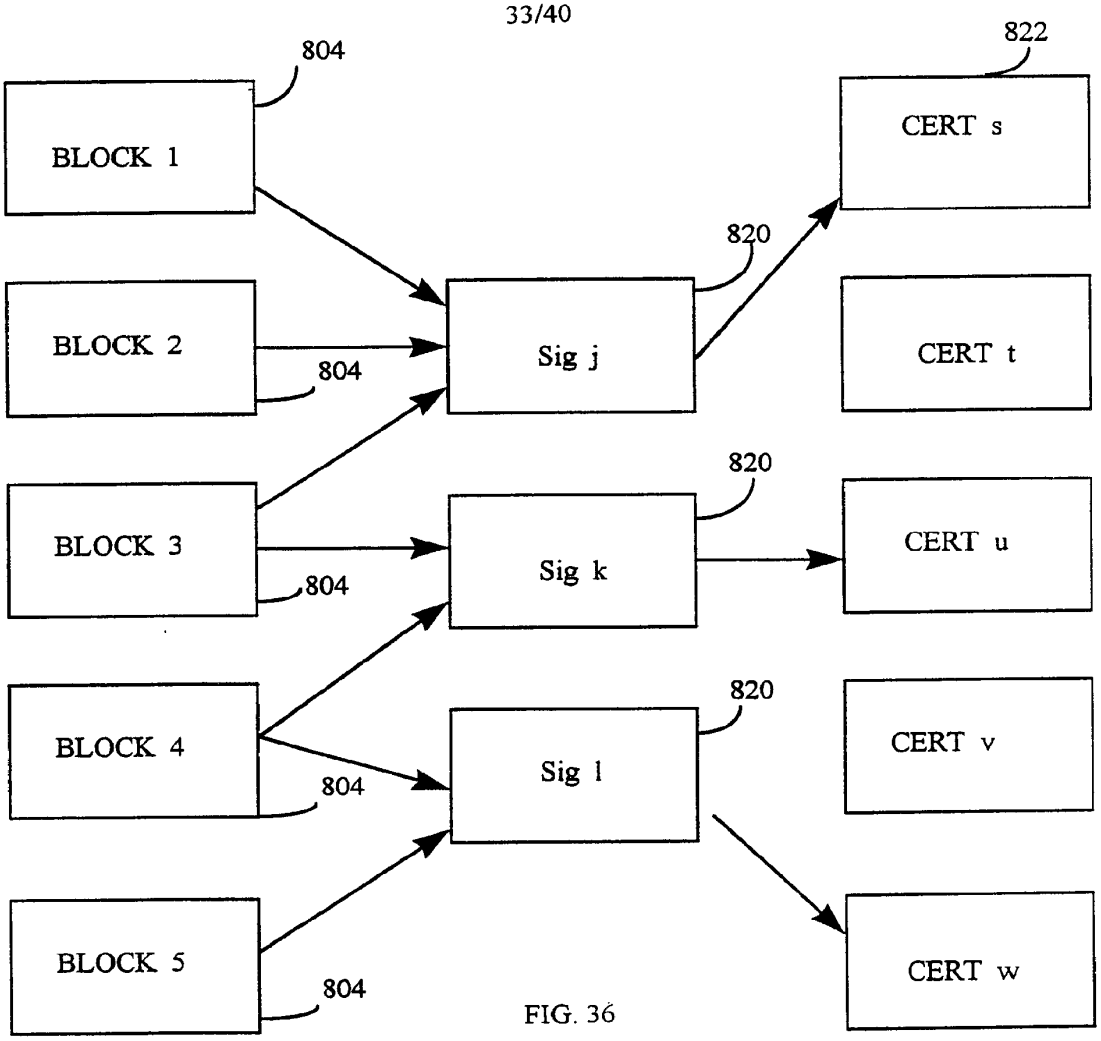

804
BLOCK 1
822
CERT s
820
BLOCK 2
804
Sig j
CERT t
820
BLOCK 3
804
Sig k
CERT u
BLOCK 4
804
820
Sig l
CERT v
BLOCK 5
804
CERT w

FIG. 36

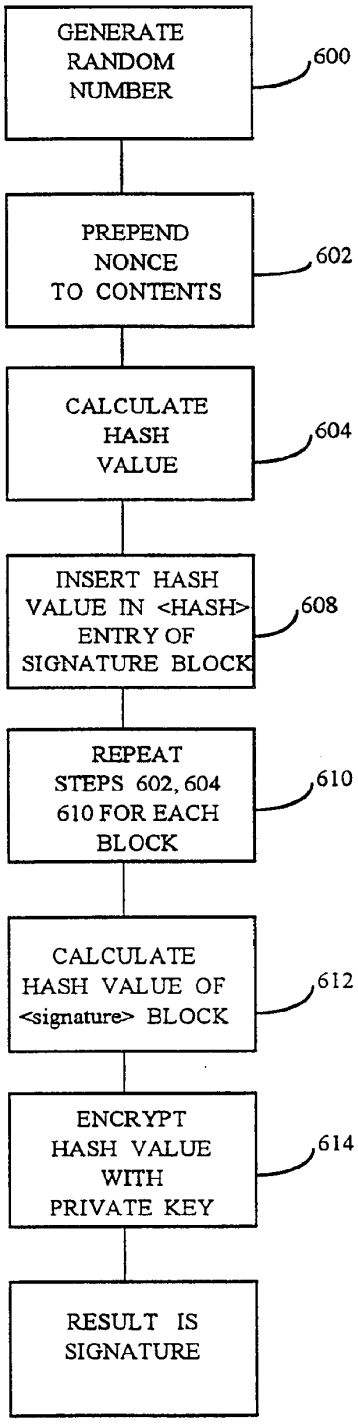

GENERATE RANDOM NUMBER
600
PREPEND NONCE TO CONTENTS
602
CALCULATE HASH VALUE
604
INSERT HASH VALUE IN <HASH> ENTRY OF SIGNATURE BLOCK
608
REPEAT STEPS 602, 604 610 FOR EACH BLOCK
610
CALCULATE HASH VALUE OF <signature> BLOCK
612
ENCRYPT HASH VALUE WITH PRIVATE KEY
614
RESULT IS SIGNATURE

FIG. 37

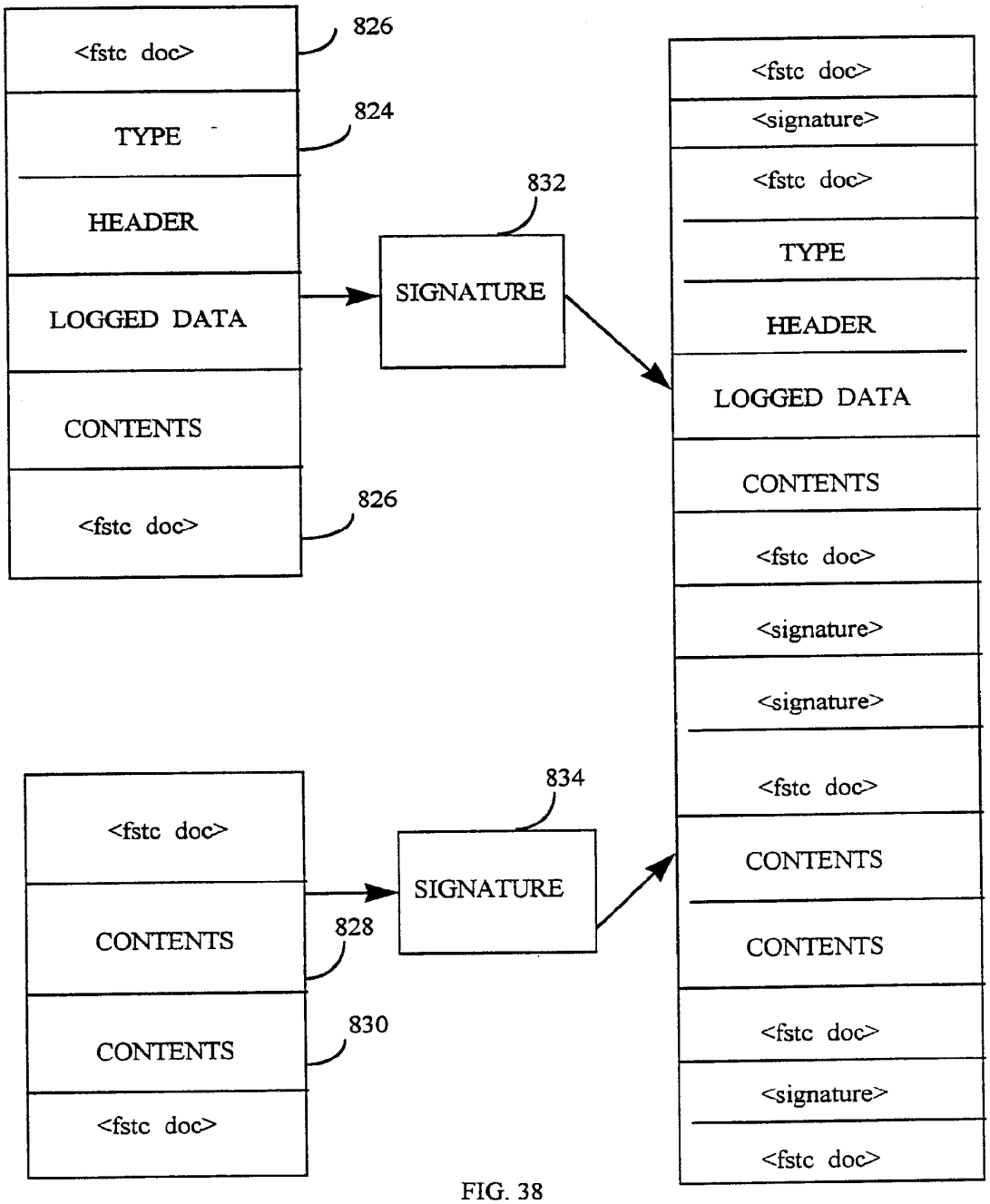

<fstc doc>
826
TYPE
824
HEADER
832
SIGNATURE
LOGGED DATA
CONTENTS
<fstc doc>
826
<fstc doc>
<signature>
<fstc doc>
TYPE
HEADER
LOGGED DATA
CONTENTS
<fstc doc>
<signature>
<signature>
<fstc doc>
CONTENTS
CONTENTS
<fstc doc>
<signature>
<fstc doc>
<fstc doc>
834
SIGNATURE
CONTENTS
828
CONTENTS
830
<fstc doc>

FIG. 38

<fstc-doc docuname="cccccccc" doctype="cccccccc">

a sequence of one or more blocks and/or nested <fstc-doc> documents

</fstc-doc>

Document element definition

FIG. 39

```
<signature>
 <blkname>cccccccc
  <crit>TRUE
  <vers>1.0
  <sigdata>
    <blockred>cccccccc
    <hash alg="SHA">hhhhhh
    <blockred>cccccccc
    <hash alg="SHA">hhhhhh

     • • •
    <blockred>cccccccc
    <hash alg="SHA">hhhhhh
    <nonca>nnnnn
    <sigref>cccccccc
    <certissuer>cccccccc
    <certserial>nnnnnnnn
    <algorithm>SHA/RSA
    <timestamp>cccccccc
    <location>cccccccc
    <username>cccccc
    <useraddr>cccccc
    <userphone>cccccc
    <usermail>cccccc
    <useridnum>cccccc
    <userotherid>cccccc
  </sigdata>
  <sig>hhhhhhhh
</signature>
```

Generic Signature block element definition

FIG. 40

BEFORE COMBINATION

```
<fstc-doc docuname="doc1">
   <attachment>
        <blkname>block1
      . . .
   </attachment>
</fstc-doc>

<fstc-doc docname="doc2">
   <attachment>
        <blkname>block1
      . . .
   </attachment>
</fstc-doc>
```

AFTER COMBINATION

```
<fstc-doc docname="newdoc">

   <fstc-doc docname="doc1">
      <attachment>
           <blkname>block1
        . . .
      </attachment>
   </fstc-doc>

   <fstc-doc docname="doc2">
      <attachment>
           <blkname>block1
        . . .
       </attachement>
   </fstc-doc>

   <signature>
   <blockref>doc1.block1
   . . .
   </signature>

</fstc-doc>
```

FIG. 41

Global Block Structure Detail - Signed Electronic Check				
Blocks	Block No.	Block References and Contents	Ref Block	Block Function
<action>	C1	PAYMENT/PROCESS		
<check>	C2		C1	signer's signature
<signature>	C3	hash of <action>	C2	
		hash of <check>	C4	
		hash of signer's <account>	C6	
		hashes of any <attachments>		
<account>	C4	reference to <account>	C4	
<cert>	C5	issuer/serial of <cert>	C5	signer's account block
<attachment>	C6			signer's certificate
<signature>	C7	hash of signer's <account> block	C4	attachments, invoice
		hash of signer's <cert> block	C5	bank's signature
		reference to bank's <cert>	C8	
<cert>	C8			bank's certificate

```
<fstc-doc docname="C" doctype="check">
   <action>    <blkname>C1 . . .  </action>
   <check>     <blkname>C2 . . .  </check>
   <signature> <blkname>C3 . . .  </signature>
   <account>   <blkname>C4 . . .  </account>
    <cert>       <blkname>C5 . . .  </cert>
    <attachment> <blkname>C6 . . . </attachment>  (optional)
    <signature>  <blkname>C7 . . . </signature>
    <cert>       <blkname>C8 . . . </cert>
</fstc-doc>
```

FIG. 42

Signed Electronic Check BNF definitions

```
signed_echeck_doc ::= <fstc-doc doctype="check">
                      <(action)>
                      <(check)>
                      acct_sig_group bank_sig_group
                     { <(attachment)> }
                     [ <(invoice)> ]
                      </fstc-doc>

multiply_signed_echeck_doc ::= <fstc-doc doctype="check">
                      <(action)>
                      acct_sig_group bank_sig_group
                      signed_echeck_doc | multiply_signed_echeck_doc
                      </fstc-doc>
```

FIG. 43

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US97/24000

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :HO4K 1/00; GO6F 17/60
US CL :380/25; 705/18, 44

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 380/25; 705/18, 44

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

APS MESSENGER

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US, A, 5,532,920 (HARTRICK ET AL) 02 July 1996.	1-37, 40-50
X, Y, P	US, A, 5,673,320 (RAY ET AL) 30 September 1997. Note col. 6, line 57 et seq. This subject matter not found in priority documents.	2-11, 13, 14, 37, 40-49
X, P	US, A, 5,557,722 (DEROSE ET AL) 17 September 1996. Note Fig. 22.	37
A, T	US, A, 5,708,806 (DEROSE ET AL) 13 January 1998.	1-37, 40-50
A, P	US, A, 5,671,282 (WOLFF ET AL) 23 September 1997.	1-37, 40-50

[X] Further documents are listed in the continuation of Box C. [ ] See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search
16 APRIL 1998

Date of mailing of the international search report
0 8 MAY 1998

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231
Facsimile No. (703) 305-3230

Authorized officer
STEPHEN C. BUCZINSKI
Telephone No. (703) 305-1835

Form PCT/ISA/210 (second sheet)(July 1992)*

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US97/24000

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☒ Claims Nos.: 38, 39
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

The dependency and meaning of these claims was improper and vague.

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest.

☐ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet(1))(July 1992)★

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US97/24000

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A, P	US, A, 5,615,268 (BISBEE ET AL) 25 March 1997.	1-37, 40-50
A	US, A, 5,504,818 (OKANO) 02 April 1996.	1-37, 40-50
A	US, A, 5,465,299 (MATSUMOTO ET AL) 07 November 1995.	1-37, 40-50
A	US, A, 4,302,810 (BOURICIUS ET AL) 24 November 1981.	1-37, 40-50

Form PCT/ISA/210 (continuation of second sheet)(July 1992)*

Electronic Patent Application Fee Transmittal

Application Number:	16025701
Filing Date:	02-Jul-2018
Title of Invention:	DIGITAL CAMERA PROCESSING SYSTEM
First Named Inventor/Applicant Name:	Charles Lee Oakes
Filer:	Peter S. Lee/Deborah Dudek
Attorney Docket Number:	US-0152.09 (14538-649)

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
NOTICE OF APPEAL	1401	1	800	800
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	1806	1	240	240
		Total in USD ($)		**1040**

Electronic Acknowledgement Receipt	
EFS ID:	35487233
Application Number:	16025701
International Application Number:	
Confirmation Number:	8845
Title of Invention:	DIGITAL CAMERA PROCESSING SYSTEM
First Named Inventor/Applicant Name:	Charles Lee Oakes
Customer Number:	16530
Filer:	Peter S. Lee/Jesus Rodriguez
Filer Authorized By:	Peter S. Lee
Attorney Docket Number:	US-0152.09 (14538-649)
Receipt Date:	21-MAR-2019
Filing Date:	02-JUL-2018
Time Stamp:	14:13:50
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$1040
RAM confirmation Number	032219INTEFSW00000433504184
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	14538-649_Transmittal.pdf	120991 24d08a95c5bea41d22e8ccc1b214c98113201e2a	no	1
Warnings:					
Information:					
2	Pre-Brief Conference request	14538-649_Pre-Appeal_Brief_Conference_Request.pdf	199907 ed314a27edb66061596aededf2759c81c2224aa5	no	4
Warnings:					
Information:					
3	Notice of Appeal Filed	14538-649_Notice_of_Appeal.pdf	241474 666fce3a2422ce1e6b3ec844c9bfab487716d2d0	no	2
Warnings:					
Information:					
4	Information Disclosure Statement (IDS) Form (SB08)	14538-649_Suppl_IDS-D.pdf	183181 b0a02a68b0cf87478ce738ec01b6164cbe1fadd7	no	6
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
5	Foreign Reference	WO-98-37655-A1.pdf	6369187 c5d68e045d172088fa4394da28d691e4894216cd	no	217
Warnings:					
Information:					
6	Non Patent Literature	Clearing_House_Electronic_Check_Clearing_etc.pdf	1414963 e3152d62f35f56e12de3f3aae6229f39e802b61b	no	35
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Information:					
7	Non Patent Literature	QuickBillPay_Nov-2007.pdf	95720 16953c0fa5bdd579a98f260a2ae06930b88ac0bb	no	2
Warnings:					
Information:					
8	Non Patent Literature	StartToSimplifyWithCheckImaging-Nov-2007.pdf	220336 1ddcbee98c3668285da1e4f7af5632b928e05f7f	no	3
Warnings:					
Information:					
9	Non Patent Literature	14538-648--ApplicationAsFiled-16018868.pdf	2313484 96fc6efac15064b505e79b2d520583579e527870	no	39
Warnings:					
Information:					
10	Non Patent Literature	Declaration-PeterAlexander.pdf	9320473 3ce7c02c2488474834 2a8807172e38082706940d	no	180
Warnings:					
Information:					
11	Non Patent Literature	MachineAcceptsBankDeposits.pdf	265498 4fcff5538988180b125be416448334d180641618	no	1
Warnings:					
Information:					
12	Non Patent Literature	Shah-MooresLaw.pdf	1296095 9e817dcdb354aa578d72afcc019ba835455b021a	no	5
Warnings:					
Information:					
13	Non Patent Literature	Rockwell-Megapixal.pdf	680763 6789e88f430d763c9eb92f7a9f80a4fad172051f	no	6
Warnings:					
Information:					

14	Non Patent Literature	Gates-HistoryWireless.pdf	504290 688d0d54c02484ebb97b5b9357de78b173ab18e8	no	5
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15	Non Patent Literature	AppleReinvents.pdf	348621 bdf801962a1f83c43c796c9177310c4bcd4eae27	no	4
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Information:					
16	Non Patent Literature	Chen-iPhone-3GS.pdf	1491026 b1967841c722218ec0eb51b680681f964aa32c36	no	10
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Information:					
17	Non Patent Literature	Berman-Hitchcock.pdf	262576 3bdfd3cc173594d300fa97f4e4d240752a8986c4	no	1
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Information:					
18	Non Patent Literature	Askey-LeicaDigilux-2.pdf	4527929 57f28fc653cc5cd77cf6925ceed7ac78acf96538	no	20
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Information:					
19	Non Patent Literature	Askey-SonyCyber-shot.pdf	4969882 a344d6b754961c566f6dde941c6ea042655d5c45	no	24
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Information:					
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Warnings:					
Information:					

21	Non Patent Literature	Askey-Nikon-D300-Review.pdf	5616544 b69141c59a9c44d26921e0c48568d025073dd912	no	24
Warnings:					
Information:					
22	Non Patent Literature	Askey-Canon-EOS-40D-Review.pdf	4870125 760e6e508368f580eeab254bf988ab4c0f72b9c9	no	24
Warnings:					
Information:					
23	Non Patent Literature	Joinson-Olympus-E-30-review.pdf	5463514 0bf6c7cf6d447b31540ef67ee00fbfcf90061b34	no	26
Warnings:					
Information:					
24	Non Patent Literature	Quinn-EvolutionOfCheck.pdf	3853849 f41dc848f68885f95232c5475179de6466dc3ff9	no	30
Warnings:					
Information:					
25	Non Patent Literature	Wasau_FinacialSystems.pdf	2938806 22aed2b58599b48dad7f935c182787896dd03cf1	no	22
Warnings:					
Information:					
26	Non Patent Literature	iPhoneAppStore10Million.pdf	215866 76a66b51dda4b7911c32f9b8cf78cfa8609abb9c	no	4
Warnings:					
Information:					
27	Non Patent Literature	Knerr-TheA2iA_AutomaticCheckProcessing.pdf	5917072 2244c4fed0248fda6700ccc2d9e8a0e973c570a7	no	50
Warnings:					
Information:					

28	Non Patent Literature	149-Cong-H9289.pdf	1040591 fb60242bb48056f7383683798 05e9fb5f61e5a6f	no	6
Warnings:					
Information:					
29	Non Patent Literature	CheckClearing21stCenturyAct.pdf	1678510 2a21004599299beef7d64cda1e7be7a4827244e2	no	20
Warnings:					
Information:					
30	Non Patent Literature	GuidelinesRadioTransmissions.pdf	4712050 9870f5aa529317fdcf48637b4b62668589ad8707	no	60
Warnings:					
Information:					
31	Non Patent Literature	MacKenzie_PhotographyMade Easy.pdf	6301400 d16a69a2536dcf2f62ff256fc6f0308b1905af4a	no	80
Warnings:					
Information:					
32	Non Patent Literature	12_CFR_229-51.pdf	496334 f5f6ce9069221ffd8c5dcecf52e0e00f0175c1b2	no	4
Warnings:					
Information:					
33	Non Patent Literature	Exceprts_AmericanNationalStandard.pdf	1061324 c93ebfa6b71e5c5f2a27270942489c6248521a1e	no	16
Warnings:					
Information:					
34	Non Patent Literature	Sumits-Major-Mobile-Milestones.pdf	1334854 538b33a9ddd05576791f11edde308d848aca4584	no	12
Warnings:					
Information:					

35	Non Patent Literature	Apple-New_Iphone3GS_Fastest.pdf	327181 db04cecbc2edba088036150e8ab3252cb391eebf	no	4
Warnings:					
Information:					
36	Non Patent Literature	MOTO_ROKR-c.pdf	1048575 1117cac30514ff8cfd4401d3258bd41d304385fd	no	144
Warnings:					
Information:					
37	Fee Worksheet (SB06)	fee-info.pdf	32174 7ee61b767cf7bee3408f89e7eca205dd219562e8	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	86842218		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: March 21, 2019 Name: Peter S. Lee (Reg. No. 64,728) Signature: /Peter S. Lee/



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. of:	Charles Lee Oakes III et al.		
Appln. No.:	16/025,701	Examiner:	Ojo O. Oyebisi
Filed:	July 2, 2018	Art Unit:	3697
For:	DIGITAL CAMERA PROCESSING SYSTEM	Conf. No.:	8845
Attorney Docket No.:	US-0152.09 (14538-649)		

TRANSMITTAL

Mail Stop AF
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Attached is/are:

☒ Pre-Appeal Brief Conference Request, Notice of Appeal from the Examiner to the Patent Trial and Appeal Board, Third Supplemental Information Disclosure Statement, Foreign Patent Reference (D118) and Non Patent Literature Documents (D119-D149).

Fee calculation:

☐ No additional fee is required.

☐ Per 37 CFR §1.27, ☐ Applicant is small entity ☐ Applicant is micro entity.

☐ An extension fee in an amount of $_____ for a _____-month extension of time under 37 CFR § 1.136(a).

☒ A petition or processing fee in an amount of $800 under 37 CFR § 41.20(b)(1).

☒ A petition or processing fee in an amount of $240 under 37 CFR § 1.17(p).

☐ An additional filing fee has been calculated as shown below:

					Fee		Small Entity Fee		Micro Entity Fee	
	Claims Remaining After Amendment		Highest No. Previously Paid	Present Extra	Rate	Add'l Fee	Rate	Add'l Fee	Rate	Add'l Fee
Total		Minus			x $100 =	$	x $ 50 =	$	x $25 =	$
Independent		Minus			x $460 =	$	x $230 =	$	x $115 =	$
First Presentation of Multiple Dep. Claim					+ $820 =	$	+ $410 =	$	+ $205 =	$
					Total	$	Total	$	Total	$

Fee payment:

☒ Please charge Deposit Account No. 50-4184 in the amount of $1,040 for Notice of Appeal and Information Disclosure Statement.

☐ Payment by credit card in the amount of $_____ (Form PTO-2038 is attached).
WARNING: Information on this form may become public. **Credit card information should not be included on this form.**

☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 50-4184.

Respectfully submitted,

March 21, 2019
Date

/Peter S. Lee/
Peter S. Lee (Reg. No. 64,728)

BRINKS GILSON & LIONE
NBC Tower – Suite 3600, 455 N. Cityfront Plaza Drive, Chicago, IL 60611-5599

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: March 21, 2019 Name: Peter S. Lee, Reg. No. 64,728 Signature: /Peter S. Lee/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
First Named Inventor: Charles Lee Oakes III Art Unit: 3697
Appln. No.: 16/025,701 Examiner: Ojo O Oyebisi
Filed: July 2, 2018 Confirmation No.: 8845
For: DIGITAL CAMERA PROCESSING SYSTEM

* * *

PRE-APPEAL BRIEF CONFERENCE REQUEST

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

In the final Office action of December 21, 2018 (hereinafter "final OA"), Claims 25-54 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter, but not rejected on any other basis. Appellant respectfully requests that the rejection be withdrawn.

After the final OA was mailed, the PTO issued *2019 Revised Patent Subject Matter Eligibility Guidance*[1] on January 7, 2019 (hereinafter "2019 Revised Guidance"). The final OA fails to comply with the *2019 Revised Guidance* and the law of 35 U.S.C. 101 for at least the following reasons.

Mayo/Alice First Step

Mayo/Alice First Step (revised Step 2A, Prong One): Claims Do Not Recite Matter that Falls Within the Enumerated Groupings of Subject Matter

The claims are eligible at Prong One of revised Step 2A because the claims do not recite matter that falls within the enumerated groupings of abstract ideas in Section I of the *2019 Revised Guidance*.

The Office, at pages 3 and 4 of the final OA, appears to assert that the claims are directed to a fundamental economic practice of processing a check image. Applicant disagrees. Even if the claims include processing a check image, they are not *directed* to such a broad concept and do not preempt all check image processing.

The independent claims are directed *inter alia* to systems and methods configured to receive a copy of a captured image of a check transmitted from a computing device configured to use a display

[1] "2019 Revised Patent Subject Matter Eligibility Guidance", 84 Fed. Reg. 4 (Jan. 7, 2019).

screen of the user's computing device to assist the user in having a digital camera capture the image and either authenticate a user based on a biometric measurement obtained corresponding to the user or assist the user as to an orientation for capturing the image. Clearly, this is not a fundamental economic practice as contemplated by Section I of the *2019 Revised Guidance*.

Further, the PTAB has specifically held, and the court has agreed, that "processing paper checks" is not an abstract idea at all. *U.S. Bancorp v. Solutran, Inc.*, Case CBM2014-00076, slip op. at 13 (P.T.A.B. August 7, 2014) (Paper 16) ("[T]he basic, core concept of independent claim 1 is a method of processing paper checks, which is more akin to a physical process than an abstract idea. Indeed, there is nothing immediately apparent about this basic, core concept that would indicate that it is directed to an abstract idea at all."), *quoted with approval, Solutran, Inc. v. US Bancorp & Elavon, Inc.*, 291 F. Supp. 3d 877, 887 (D. Minn. Nov. 27, 2017).

Mayo/Alice First Step (revised Step 2A, Prong Two): Claims Recite Additional Elements that Integrate the Asserted Abstract Idea into a Practical Application thereof

Assuming, *arguendo*, that the asserted abstract idea of "processing check image" could somehow be seen to fall within the *2019 Revised Guidance*'s enumerated groupings of abstract ideas, the claims recite additional elements that integrate any such idea into a practical application thereof.

The *2019 Revised Guidance* Explains: "A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception." *2019 Revised Guidance* at 54. Even if a claim recites a judicial exception, it is patent eligible if the claim provides a practical application of the judicial exception. *LeRoy v. Tathem*, 55 U.S. 156, 175 (1852) ("a new property discovered in matter, when practically applied in the construction of a useful article of commerce or manufacture, is patentable").

The final OA apparently maintains the identification of "additional elements" from the non-final Office action of August 21, 2018 ("non-final OA"). In the non-final OA, the Office identified some limitations of Claim 53 as setting forth the asserted abstract idea, and therefore the Office apparently identified all other limitations as "additional elements." *Non-final OA* at 3. Thus, Claim 53 includes at least the following "additional elements":

- *"wherein the copy of the captured image is transmitted from a user's computing device configured to implement...":*
  - *"instructing, through a user's computing device, the user to capture an image of a check",*
  - *"using a display screen of the user's computing device to assist the user in having a digital camera capture the image of the check", and*
  - *"assisting the user as to an orientation for capturing the image of the check"; and*
- *"updating a balance of an account based on an amount depicted in the check".*

Those "additional elements" integrate the asserted abstract idea of "processing check image" into a practical application when combined as recited in Claim 53 at least because the claimed arrangement of the "additional elements" "reflects an improvement in the functioning of a computer, or an improvement to other technology or technical field." *2019 Revised Guidance* § III(A)(2).

The claimed arrangement recited in Claim 53, wherein the copy of the captured image is transmitted from a user's computing device configured to use a display screen of a user's computing device to assist the user in capturing an image of a check for mobile check deposit and assist the user as to an orientation for capturing the image of the check, provides a technical approach to a technical concern. Each claimed arrangement improves technology related to digital cameras with a display screen. Each also improves the technology of imaging paper checks.

Various patent publications confirm that the invention of Claim 53 involves a technical improvement to a technical problem. For example, U.S. Patent No. 7,419,093 (Blackson) identified orientation ("skew") as a technical issue in imaging checks: "As represented in FIG. 27 document 158 may be **skewed relative to the transport section** through which it passes." *Id.* at col.28, ll. 50-52 (emphasis added). Blackson's "solution" included "deskew the data corresponding to the image." *Blackson* at col. 29, ll. 27-39.

Thus, at least the above-identified "additional elements" provide a technical approach to a technical problem and result in a practical application.

Mayo/Alice Second Step (Step 2B)

Assuming, *arguendo*, that the claims could somehow be seen to be directed an abstract idea, the Office action fails to comply with the PTO's *Berkheimer Memo*[2] with respect to the second step of the Mayo/Alice analysis (Step 2B). The claims recite elements, such as the "additional elements" discussed above, that amount to significantly more.

Mayo/Alice Second Step: Additional Elements Not Well-Understood, Routine, and Conventional as of *New Priority Date: October 31, 2006*

Evidence concerning what was not well-understood, routine, and conventional by the time of the newly established priority date in 2006 includes the attached article published by the New York Times on August 9, 2009, entitled "*Bank Will Allow Customers to Deposit Checks by iPhone*." The article describes how applicant (USAA), in 2009, was innovating in the mobile banking industry by making available a downloadable app for a mobile device to permit mobile deposit of paper checks. For example, it opined "[t]he deposit feature, which USAA previewed in an online video, puts the bank in the vanguard of the effort to turn cellphones into portable branches."

In other words, even entering the second half of 2009, using a display screen of a user's computing device to assist the user in capturing an image of a check for mobile check deposit with the

[2] Memorandum - Revising 101 Eligibility Procedure in view of Berkheimer v. HP, Inc. (issued April 19, 2018).

other "additional elements" was not well-understood, routine, and conventional. All the more so in 2006, the priority date of the present invention.

As such, the result of the "additional elements" is that the claim as a whole amounts to significantly more than the asserted abstract idea. Withdrawal of the rejection under § 101 is respectfully requested for this additional reason.

The absence of arguments addressing specific allegations in the outstanding Office Action is not intended to be an admission of the accuracy or appropriateness of such allegations.

The Commissioner is hereby authorized to charge to Deposit Account No. 50-4184 any additional fees under 37 C.F.R. §§ 1.16 and 1.17 that may be required by this paper and to credit any overpayment to that Account. If any extension of time is required in connection with the filing of this paper and has not been separately requested, such extension is hereby requested.

Respectfully submitted,

Date: March 21, 2019 /Peter S. Lee/

Peter S. Lee
Registration No. 64,728
Attorney for Applicant

BRINKS GILSON & LIONE
CUSTOMER NO. 16530
TELEPHONE: (312) 321-4200

PTO/AIA/31 (03-14)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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NOTICE OF APPEAL FROM THE EXAMINER TO THE PATENT TRIAL AND APPEAL BOARD

Docket Number (Optional): US-0152.09 (14538-649)

I hereby certify that this correspondence is being facsimile transmitted to the USPTO, EFS-Web transmitted to the USPTO, or deposited with the United States Postal Service with sufficient postage in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, on Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on March 21, 2019.

Signature /Peter S. Lee/

Typed or printed name Peter S. Lee

In re Application of: Charles Lee Oakes III

Application Number	Filed
16/025,701	July 2, 2018

For: DIGITAL CAMERA PROCESSING SYSTEM

Art Unit	Examiner
3697	Ojo O. Oyebisi

Applicant hereby **appeals** to the Patent Trial and Appeal Board from the last decision of the examiner.

The fee for this Notice of Appeal is (37 CFR 41.20(b)(1)) $ 800.00

☐ Applicant asserts small entity status. See 37 CFR 1.27. Therefore, the fee shown above is reduced by 50%, and the resulting fee is: $ _____

☐ Applicant certifies micro entity status. See 37 CFR 1.29. Therefore, the fee shown above is reduced by 75%, and the resulting fee is: $ _____
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☑ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 50-4184.

☑ Payment made via EFS-Web.

☐ A petition for an extension of time under 37 CFR 1.136(a) (PTO/AIA/22 or equivalent) is enclosed.
For extensions of time in reexamination proceedings, see 37 CFR 1.550.

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I am the

☐ applicant

☑ attorney or agent of record
Registration number 64,728

☐ attorney or agent acting under 37 CFR 1.34
Registration number _____

Signature /Peter S. Lee/

Typed or printed name Peter S. Lee

Telephone Number 312-321-4200

Date March 21, 2019

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

☑ * Total of 1 forms are submitted.

This collection of information is required by 37 CFR 41.20(b)(1) and 41.31. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/025,701	07/02/2018	Charles Lee Oakes III	US-0152.09 (14538-649)	8845

16530 7590 12/21/2018

BGL
P.O. Box 10395
Chicago, IL 60611

EXAMINER	
OYEBISI, OJO O	

ART UNIT	PAPER NUMBER
3697	

MAIL DATE	DELIVERY MODE
12/21/2018	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.** 16/025,701	**Applicant(s)** Oakes et al.	
	Examiner OJO O OYEBISI	**Art Unit** 3697	**AIA Status** Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 11/20/18.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☑ This action is **FINAL.** 2b) ☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 25-54 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 25-54 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date 11/15/18, 11/14/18, 09/28/18.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Applicant's remarks in the amendment filed on 11/20/18 has necessitated the withdrawal of the previous art rejection.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 25-54 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Subject Matter Eligibility Standard

3. When considering subject matter eligibility under 35 U.S.C. 101, it must be determined whether the claim is directed to one of the four statutory categories of invention, i.e., process, machine, manufacture, or composition of matter. If the claim does fall within one of the statutory categories, it must then be determined whether the claim is directed to a judicial exception (i.e., law of nature, natural phenomenon, and abstract idea), and if so, it must additionally be determined whether the claim is a patent-eligible application of the exception. If an abstract idea is present in the claim, any element or combination of elements in the claim must

be sufficient to ensure that the claim amounts to significantly more than the abstract idea itself. Examples of abstract ideas include fundamental economic practices; certain methods of organizing human activities; an idea itself; and mathematical relationships/formulas. *Alice Corporation Pty. Ltd. v. CLS Bank International, et al.*, 573 U.S. ____ (2014).

Analysis

4. The examiner contends that, under Alice, to determine the patent-eligibility of an application, a two- part analysis has to be conducted.

Part 1:

(1) Determine if the claims are directed to an abstract idea or one of the judicial exceptions. Examples of abstract ideas referenced in Alice Corp. include:

1. Fundamental economic practices

2. Certain methods of organizing human activities

3. An idea of itself

4. Mathematical relationships/formulas

Part 2: (2) Determine whether any element or a combination of element amount significantly more than the abstract idea itself.

I. In the first analysis, using claim 53 as the representative claim, it is found that the claim is indeed directed to an abstract idea of processing check image. Processing check image is a fundamental economic practice; and as a result, claim 53 includes an abstract idea. The limitations in the claim that set forth the abstract idea are: "a method for receiving data; processing data, capturing data; presenting image and

transmitting image." The examiner contends that the recited steps describe the concept of processing check image, which corresponds to concepts identified as abstract ideas by the courts, such as processing information through a clearinghouse in Dealertrack; and as a result, claim 53 includes an abstract idea. **There are no improvements to the technical field or the technology, nor are there improvements to the computer system itself. Consequently the claim is not patent eligible.** However, in the second analysis, it is found that the claimed elements do not sufficiently transform the judicial exception into a patent-eligible invention. The examiner contends that the recited "computer system" is recited to simply perform the computer functions of generating, receiving, analyzing, sorting, storing, calculating and transmitting information (i.e., That is, the computer processor is provided to process certain instructions or data; input from the user is received to provide an indication of a first consideration to be applied in the process and to indicate an expression of interest by the user in certain types of the descriptive material; a particular display of information is presented based upon the first consideration and the indication of expressed interest received; and a provision is made to allow the user to complete an instance or session of the process). Thus, taken alone, the additional elements do not amount to significantly more than the above-identified judicial exception (the abstract idea). Looking at the limitations as an ordered combination of elements add nothing that is not already present when looking at the elements taken individually. There is no indication that the combination of

the elements improves the functioning of a computer or improves any other technology. Accordingly, the examiner concludes that there are no meaningful limitations in the claim that transform the judicial exception into a patent eligible application such that the claim amounts to significantly more than the judicial exception itself. Note: The analysis above applies to all statutory categories of invention. As such, the independent claims otherwise styled as a computer-readable medium encoded to perform specific tasks, machine or manufacture, for example, would be subject to the same analysis. Furthermore, the limitations in the dependent claims are thus subject to the same analysis as in claim 1 and are rejected using the same rationale as in claim 1 above.

Response to Arguments

Applicant's arguments filed on 11/20/18 have been fully considered but they are not persuasive.

In response to applicant's argument that the examiner has failed to provide support for the conclusion that the combination of additional elements is well-understood, routine and conventional. Contrary to the applicant's assertion, the court has identified, in (Versata) 793 F.3d at 1335, 115 USPQ2d at 1702 that the steps of generating, receiving, analyzing, sorting, storing, calculating and transmitting information are conventional and basic functions of a computer system. The examiner further takes official notice that it is old and well known in the art to use a computer system to process data.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to OJO O OYEBISI whose telephone number is (571)272-8298. The examiner can normally be reached on Monday-Friday, 9am-7pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ryan D Donlon can be reached on 517-270-3602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/OJO O OYEBISI/
Primary Examiner, Art Unit 3697

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: November 15, 2018 Name: Peter S. Lee (Reg. No. 64,728) Signature: /Peter S. Lee/

EFSWEB

SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	16/025,701
Filing Date	July 2, 2018
First Named Inventor	Charles Lee Oakes
Art Unit	3697
Confirmation Number	8845
Examiner Name	Ojo O. Oyebisi
Attorney Docket No.	US-0152.09 (14538-649)

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

US PATENT REFERENCES

EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C1	3,005,282	10/24/1961	Christiansen
	C2	3,341,820	09/12/1967	Grillmeier, Jr. et al.
	C3	3,576,972	05/04/1971	Wood
	C4	3,593,913	07/20/1971	Bremer
	C5	3,620,553	11/16/1971	Donovan
	C6	3,648,242	03/07/1972	Grosbard
	C7	3,800,124	03/26/1974	Walsh
	C8	3,816,943	06/18/1974	Henry
	C9	4,002,356	01/11/1977	Weidmann
	C10	4,060,711	11/29/1977	Buros
	C11	4,070,649	01/24/1978	Wright, Jr. et al.
	C12	4,128,202	12/05/1978	Buros
	C13	4,136,471	01/30/1979	Austin
	C14	4,205,780	06/03/1980	Burns
	C15	4,264,808	04/28/1981	Owens
	C16	4,305,216	12/15/1981	Skelton
	C17	4,321,672	03/23/1982	Braun
	C18	4,433,436	02/21/1984	Carnes
	C19	4,454,610	06/12/1984	Sziklai
	C20	RE 31,692	10/02/1984	Tyburski et al.
	C21	4,523,330	06/11/1985	Cain (
	C22	4,636,099	01/13/1987	Goldston
	C23	4,640,413	02/03/1987	Kaplan
	C24	4,644,144	02/17/1987	Chandek
	C25	4,722,444	02/02/1988	Murphy et al.
	C26	4,722,544	02/02/1988	Weber
	C27	4,727,435	02/23/1988	Otani et al.
	C28	4,739,411	04/19/1988	Bolton
	C29	4,774,663	09/27/1988	Musmanno
	C30	4,774,574	09/27/1988	Daly et al.
	C31	4,790,475	12/13/1988	Griffin
	C32	4,806,780	02/21/1989	Yamamoto
	C33	4,837,693	06/06/1989	Schotz
	C34	4,890,228	12/26/1989	Longfield
	C35	4,927,071	05/22/1990	Wood

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C36	4,934,587	06/19/1990	McNabb
	C37	4,960,981	10/02/1990	Benton
	C38	4,975,735	12/04/1990	Bright
	C39	5,022,683	06/11/1991	Barbour
	C40	5,053,607	10/01/1991	Carlson
	C41	5,146,606	09/08/1992	Grondalski
	C42	5,157,620	10/20/1992	Shaar
	C43	5,159,548	10/27/1992	Caslavka
	C44	5,191,525	03/02/1993	LeBrun
	C45	5,193,121	03/09/1993	Elischer et al.
	C46	5,220,501	06/15/1993	Lawlor
	C47	5,227,863	07/13/1993	Bilbrey et al.
	C48	5,229,589	07/20/1993	Schneider
	C49	5,237,159	08/17/1993	Stephens
	C50	5,257,320	10/26/1993	Etherington et al.
	C51	5,265,008	11/23/1993	Benton
	C52	5,321,816	06/14/1994	Rogan
	C53	5,347,302	09/13/1994	Simonoff
	C54	5,350,906	09/27/1994	Brody
	C55	5,373,550	12/13/1994	Campbell
	C56	5,419,588	05/30/1995	Wood
	C57	5,422,467	06/06/1995	Graef
	C58	5,444,794	08/22/1995	Uhland, Sr.
	C59	5,475,403	12/12/1995	Havlovick et al.
	C60	5,504,538	04/02/1996	Tsujihara
	C61	5,504,677	04/02/1996	Pollin
	C62	5,528,387	06/18/1996	Kelly et al.
	C63	5,577,179	11/19/1996	Blank
	C64	5,583,759	12/10/1996	Geer
	C65	5,590,196	12/31/1996	Moreau
	C66	5,594,225	01/14/1997	Botvin
	C67	5,598,969	02/04/1997	Ong
	C68	5,602,936	02/11/1997	Green
	C69	5,610,726	03/11/1997	Nonoshita
	C70	5,611,028	03/11/1997	Shibasaki
	C71	5,630,073	05/13/1997	Nolan
	C72	5,631,984	05/20/1997	Graf et al.
	C73	5,668,897	09/16/1997	Stolfo
	C74	5,673,320	09/30/1997	Ray et al.
	C75	5,677,955	10/14/1997	Doggett
	C76	5,678,046	10/14/1997	Cahill et al.
	C77	5,679,938	10/21/1997	Templeton
	C78	5,680,611	10/21/1997	Rail
	C79	5,691,524	11/25/1997	Josephson
	C80	5,699,452	12/16/1997	Vaidyanathan
	C81	5,734,747	03/31/1998	Vaidyanathan
	C82	5,737,440	04/07/1998	Kunkler
	C83	5,748,780	05/05/1998	Stolfo
	C84	5,751,842	05/12/1998	Riach
	C85	5,784,503	07/21/1998	Bleecker, III et al.
	C86	5,830,609	11/03/1998	Warner
	C87	5,832,463	11/03/1998	Funk

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C88	5,838,814	11/17/1998	Moore
	C89	5,848,185	12/08/1998	Koga et al.
	C90	5,863,075	01/26/1999	Rich
	C91	5,870,456	02/09/1999	Rogers
	C92	5,870,724	02/09/1999	Lawlor
	C93	5,870,725	02/09/1999	Bellinger et al.
	C94	5,878,337	03/02/1999	Joao
	C95	5,889,884	03/30/1999	Hashimoto et al.
	C96	5,893,101	04/06/1999	Balogh et al.
	C97	5,898,157	04/27/1999	Mangili et al.
	C98	5,897,625	04/27/1999	Gustin
	C99	5,901,253	05/04/1999	Tretter
	C100	5,903,878	05/11/1999	Talati
	C101	5,903,881	05/11/1999	Schrader
	C102	5,910,988	06/08/1999	Ballard
	C103	5,917,931	06/29/1999	Kunkler
	C104	5,924,737	07/20/1999	Schrupp
	C105	5,926,548	07/20/1999	Okamoto
	C106	5,930,778	07/27/1999	Geer
	C107	5,937,396	08/10/1999	Konya
	C108	5,940,844	08/17/1999	Cahill
	C109	5,982,918	11/09/1999	Mennie
	C110	5,987,439	11/16/1999	Gustin et al.
	C111	6,012,048	01/04/2000	Gustin et al.
	C112	6,014,454	01/11/2000	Kunkler
	C113	6,021,202	02/01/2000	Anderson
	C114	6,021,397	02/01/2000	Jones
	C115	6,029,887	02/29/2000	Furuhashi
	C116	6,030,000	02/29/2000	Diamond
	C117	6,032,137	02/29/2000	Ballard
	C118	6,038,553	03/14/2000	Hyde
	C119	6,053,405	04/25/2000	Irwin, Jr. et al.
	C120	6,064,762	05/16/2000	Haenel
	C121	6,073,119	06/06/2000	Borenmisza-wahr
	C122	6,073,121	06/06/2000	Ramzy
	C123	6,085,168	07/04/2000	Mori
	C124	6,086,708	07/11/2000	Colgate
	C125	6,089,610	07/18/2000	Greene
	C126	6,089,450	07/18/2000	Koeple
	C127	6,092,047	07/18/2000	Hyman et al.
	C128	6,097,834	08/01/2000	Krouse
	C129	6,097,885	08/01/2000	Rayner
	C130	6,097,845	08/01/2000	Ng et al.
	C131	6,105,865	08/22/2000	Hardesty
	C132	6,141,339	10/31/2000	Kaplan et al.
	C133	6,145,738	11/14/2000	Stinson et al.
	C134	6,151,426	11/21/2000	Lee
	C135	6,151,423	11/21/2000	Melen
	C136	6,159,585	12/12/2000	Rittenhouse
	C137	6,170,744	01/09/2001	Lee
	C138	6,178,409	01/23/2001	Weber et al.
	C139	6,188,506	02/13/2001	Kaiserman

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C140	6,189,785	02/20/2001	Lowery
	C141	6,192,165	02/20/2001	Irons
	C142	6,195,694	02/27/2001	Chen et al.
	C143	6,199,055	03/06/2001	Kara
	C144	6,236,009	05/22/2001	Emigh et al.
	C145	6,243,689	06/05/2001	Norton
	C146	2001/0004235	06/21/2001	Maloney
	C147	2001/0014881	08/16/2001	Drummond
	C148	6,278,983	08/21/2001	Ball
	C149	2001/0016084	08/23/2001	Pollard et al.
	C150	6,282,523	08/28/2001	Tedesco et al.
	C151	2001/0018739	08/30/2001	Anderson
	C152	6,282,826	09/04/2001	Richards
	C153	6,293,469	09/25/2001	Masson et al.
	C154	2001/0027994	10/11/2001	Hayashida
	C155	6,304,860	10/16/2001	Martin
	C156	2001/0037299	11/01/2001	Nichols et al.
	C157	6,314,452	11/06/2001	Dekel
	C158	6,317,727	11/13/2001	May
	C159	2001/0042171	11/15/2001	Vermeulen
	C160	2001/0042785	11/22/2001	Walker
	C161	2001/0043748	11/22/2001	Wesolkowski et al.
	C162	2001/0047330	11/29/2001	Gephart
	C163	6,328,207	12/11/2001	Gregoire et al.
	C164	6,330,546	12/11/2001	Gopinathan et al.
	C165	2001/0054020	12/20/2001	Barth et al.
	C166	2002/0001393	01/03/2002	Jones
	C167	6,339,658	01/15/2002	Moccagatta
	C168	2002/0016763	02/07/2002	March
	C169	2002/0016769	02/07/2002	Barbara et al.
	C170	2002/0026418	02/28/2002	Koppel et al.
	C171	2002/0032656	03/14/2002	Chen
	C172	6,363,164	03/26/2002	Jones et al.
	C173	6,363,162	03/26/2002	Moed et al.
	C174	2002/0038289	03/28/2002	Lawlor et al.
	C175	2002/0040340	04/04/2002	Yoshida
	C176	2002/0052841	05/02/2002	Guthrie
	C177	2002/0052853	05/02/2002	Munoz
	C178	6,390,362	05/21/2002	Martin
	C179	6,397,196	05/28/2002	Kravetz
	C180	2002/0065786	05/30/2002	Martens et al.
	C181	2002/0072974	06/13/2002	Pugliese
	C182	6,408,084	06/18/2002	Foley
	C183	2002/0075524	06/20/2002	Blair
	C184	6,411,725	06/25/2002	Rhoads
	C185	6,411,938	06/25/2002	Gates et al.
	C186	6,411,737	06/25/2002	Wesolkowski et al.
	C187	6,413,305	07/02/2002	Mehta
	C188	2002/0084321	07/04/2002	Martens
	C189	2002/0087467	07/04/2002	Mascavage, III et al.
	C190	6,417,869	07/09/2002	Do
	C191	6,425,017	07/23/2002	Dievendorff

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	C192	6,429,952	08/06/2002	Olbricht
	C193	2002/0107809	08/08/2002	Biddle et al.
	C194	2002/0107767	08/08/2002	McClair et al.
	C195	2002/0116329	08/22/2002	Serbetcioglu
	C196	2002/0116335	08/22/2002	Star
	C197	6,439,454	08/27/2002	Masson et al.
	C198	2002/0118891	08/29/2002	Rudd
	C199	2002/0120562	08/29/2002	Opiela
	C200	2002/0120582	08/29/2002	Elston et al.
	C201	6,449,397	09/10/2002	Che-chu
	C202	2002/0129249	09/12/2002	Maillard et al.
	C203	6,450,403	09/17/2002	Martens et al.
	C204	2002/0133409	09/19/2002	Sawano et al.
	C205	2002/0130868	09/19/2002	Smith
	C206	2002/0138522	09/26/2002	Muralidhar
	C207	6,463,220	10/08/2002	Dance et al.
	C208	2002/0147798	10/10/2002	Huang
	C209	6,464,134	10/15/2002	Page
	C210	2002/0150279	10/17/2002	Scott
	C211	2002/0152161	10/17/2002	Aoike
	C212	2002/0152164	10/17/2002	Dutta
	C213	2002/0152165	10/17/2002	Dutta et al.
	C214	2002/0152169	10/17/2002	Dutta et al.
	C215	2002/0152160	10/17/2002	Allen-Rouman et al.
	C216	2002/0150311	10/17/2002	Lynn
	C217	6,470,325	10/22/2002	Leemhuis
	C218	6,469,745	10/22/2002	Yamada et al.
	C219	2002/0154127	10/24/2002	Vienneau et al.
	C220	2002/0159648	10/31/2002	Alderson et al.
	C221	2002/0171820	11/21/2002	Okamura
	C222	2002/0178112	11/28/2002	Goeller
	C223	2002/0188564	12/12/2002	Star
	C224	2002/0186881	12/12/2002	Li
	C225	2002/0195485	12/26/2002	Pomerleau et al.
	C226	2003/0005326	01/02/2003	Flemming
	C227	6,505,178	01/07/2003	Flenley
	C228	2003/0009420	01/09/2003	Jones
	C229	2003/0015583 A1	01/23/2003	Abdi et al.
	C230	2003/0023557	01/30/2003	Moore
	C231	2003/0026609	02/06/2003	Parulski
	C232	2003/0038227	02/27/2003	Sesek
	C233	2003/0050889	03/13/2003	Burke
	C234	2003/0055756	03/20/2003	Allan
	C235	2003/0055776	03/20/2003	Samuelson
	C236	2003/0053692	03/20/2003	Hong et al.
	C237	6,546,119	04/08/2003	Ciolli et al.
	C238	2003/0074315	04/17/2003	Lam
	C239	2003/0075916	04/24/2003	Gorski
	C240	2003/0075596	04/24/2003	Koakutsu
	C241	2003/0081824	05/01/2003	Mennie
	C242	2003/0093369	05/15/2003	Ijichi et al.
	C243	2003/0093367	05/15/2003	Allen-Rouman et al.

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C244	6,574,609	06/03/2003	Downs
	C245	2003/0105714	06/05/2003	Alarcon-Luther et al.
	C246	2003/0102714	06/05/2003	Rhodes et al.
	C247	2003/0105688	06/05/2003	Brown et al.
	C248	6,578,760	06/17/2003	Otto
	C249	6,587,837	07/01/2003	Spagna
	C250	2003/0126078	07/03/2003	Vihinen
	C251	2003/0126082 A1	07/03/2003	Omura et al.
	C252	2003/0130940	07/10/2003	Hansen et al.
	C253	2003/0132384	07/17/2003	Sugiyama et al.
	C254	2003/0133610	07/17/2003	Nagarajan et al.
	C255	2003/0139999	07/24/2003	Rowe
	C256	6,606,117	08/12/2003	Windle
	C257	6,609,200	08/19/2003	Anderson
	C258	2003/0159046	08/21/2003	Choi et al.
	C259	6,611,598	08/26/2003	Hayosh
	C260	6,614,930	09/02/2003	Agnihotri et al.
	C261	2003/0167225	09/04/2003	Adams
	C262	2003/0191615	10/09/2003	Bailey
	C263	2003/0191869	10/09/2003	Williams
	C264	2003/0200174	10/23/2003	Star
	C265	2003/0202690	10/30/2003	Jones et al.
	C266	6,643,416	11/04/2003	Daniels
	C267	2003/0212904	11/13/2003	Randle et al.
	C268	2003/0217005	11/20/2003	Drummond et al.
	C269	6,654,487	11/25/2003	Downs, Jr.
	C270	2003/0225705	12/04/2003	Park et al.
	C271	6,661,910	12/09/2003	Jones et al.
	C272	2003/0233318	12/18/2003	King et al.
	C273	2003/0233278	12/18/2003	Marshall
	C274	6,669,086	12/30/2003	Abdi et al.
	C275	6,672,452	01/06/2004	Alves
	C276	2004/0010466	01/15/2004	Anderson
	C277	2004/0012496	01/22/2004	De Souza
	C278	2004/0013284	01/22/2004	Yu
	C279	6,682,452	01/27/2004	Quintus
	C280	2004/0024626	02/05/2004	Bruijning
	C281	2004/0024708	02/05/2004	Masuda
	C282	2004/0030741	02/12/2004	Wolton et al.
	C283	6,695,204	02/24/2004	Stinson
	C284	2004/0044606	03/04/2004	Buttridge et al.
	C285	6,711,474	03/23/2004	Treyz et al.
	C286	2004/0057697	03/25/2004	Renzi
	C287	2004/0058705	03/25/2004	Morgan
	C288	2004/0066031	04/08/2004	Wong
	C289	2004/0069841	04/15/2004	Wong
	C290	2004/0071333	04/15/2004	Douglas et al.
	C291	2004/0078299	04/22/2004	Down-Logan
	C292	2004/0076320	04/22/2004	Downs, Jr.
	C293	6,726,097	04/27/2004	Graef
	C294	6,728,397	04/27/2004	Mcneal
	C295	2004/0080795	04/29/2004	Bean et al.

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C296	2004/0093303	05/13/2004	Picciallo
	C297	2004/0093305	05/13/2004	Kight
	C298	2004/0089711	05/13/2004	Sandru
	C299	6,738,496	05/18/2004	Van Hall
	C300	6,742,128	05/25/2004	Joiner
	C301	2004/0103296	05/27/2004	Harp
	C302	2004/0103057	05/27/2004	Melbert et al.
	C303	6,745,186	06/01/2004	Testa et al.
	C304	2004/0109596	06/10/2004	Doran
	C305	2004/0110975	06/10/2004	Osinski et al.
	C306	2004/0111371	06/10/2004	Friedman
	C307	2004/0117302	06/17/2004	Weichert
	C308	6,754,640	06/22/2004	Bozeman
	C309	2004/0122754	06/24/2004	Stevens
	C310	6,755,340	06/29/2004	Voss et al.
	C311	2004/0133511	07/08/2004	Smith et al.
	C312	6,763,226	07/13/2004	McZeal
	C313	2004/0138974	07/15/2004	Shimamura
	C314	2004/0148235	07/29/2004	Craig et al.
	C315	2004/0158549	08/12/2004	Matena
	C316	6,781,962	08/24/2004	Williams
	C317	2004/0165096	08/26/2004	Maeno
	C318	2004/0170259	09/02/2004	Park
	C319	6,786,398	09/07/2004	Stinson et al.
	C320	6,789,054	09/07/2004	Makhlouf
	C321	2004/0184766	09/23/2004	Kim et al.
	C322	6,796,491	09/28/2004	Nakajima
	C323	6,796,489	09/28/2004	Slater et al.
	C324	6,806,903	10/19/2004	Okisu et al.
	C325	2004/0210515	10/21/2004	Hughes
	C326	2004/0210523	10/21/2004	Gains et al.
	C327	6,813,733	11/02/2004	Li
	C328	2004/0225604	11/11/2004	Foss, Jr. et al.
	C329	2004/0228277	11/18/2004	Williams
	C330	2004/0236647	11/25/2004	Acharya
	C331	2004/0236688	11/25/2004	Bozeman
	C332	2004/0240722	12/02/2004	Tsuji et al.
	C333	6,829,704	12/07/2004	Zhang
	C334	2004/0245324	12/09/2004	Chen
	C335	2004/0248600	12/09/2004	Kim
	C336	2004/0247199	12/09/2004	Murai et al.
	C337	2004/0252679	12/16/2004	Williams
	C338	2004/0260636	12/23/2004	Marceau
	C339	2004/0267666	12/30/2004	Minami
	C340	2005/0001421	01/06/2005	Luth et al.
	C341	2005/0010108	01/13/2005	Rahn et al.
	C342	6,844,885	01/18/2005	Anderson
	C343	2005/0015332	01/20/2005	Chen
	C344	2005/0021466	01/27/2005	Buchanan et al.
	C345	2005/0038746	02/07/2005	Latimer et al.
	C346	2005/0033645	02/10/2005	Duphily
	C347	2005/0033685	02/10/2005	Reyes

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	C348	2005/0033695	02/10/2005	Minowa
	C349	2005/0030388	02/10/2005	Stavely et al.
	C350	6,856,965	02/15/2005	Stinson
	C351	2005/0035193	02/17/2005	Gustin et al.
	C352	2005/0038754	02/17/2005	Geist
	C353	2005/0044042	02/24/2005	Mendiola
	C354	2005/0044577	02/24/2005	Jerding
	C355	2005/0049950	03/03/2005	Johnson
	C356	6,863,214	03/08/2005	Garner et al.
	C357	6,870,947	03/22/2005	Kelland
	C358	2005/0071283	03/31/2005	Randle et al.
	C359	2005/0075974	04/07/2005	Turgeon
	C360	2005/0075969	04/07/2005	Nielson et al.
	C361	2005/0078336	04/14/2005	Ferlitsch
	C362	2005/0080725	04/14/2005	Pick
	C363	6,883,140	04/19/2005	Acker
	C364	2005/0086140	04/21/2005	Ireland
	C365	2005/0086168	04/21/2005	Alvarez
	C366	2005/0082364	04/21/2005	Alvarez et al.
	C367	2005/0091161	04/28/2005	Gustin
	C368	2005/0089209	04/28/2005	Stefanuk
	C369	2005/0097046	05/05/2005	Singfield
	C370	2005/0096992	05/05/2005	Geisel
	C371	2005/0097019	05/05/2005	Jacobs
	C372	2005/0097050	05/05/2005	Orcutt
	C373	2005/0108164	05/19/2005	Salafia
	C374	2005/0108168	05/19/2005	Halpin
	C375	6,898,314	05/24/2005	Kung et al.
	C376	2005/0115110	06/02/2005	Dinkins
	C377	6,902,105	06/07/2005	Koakutsu
	C378	2005/0125360	06/09/2005	Tidwell et al.
	C379	2005/0125338	06/09/2005	Tidwell et al.
	C380	2005/0131820	06/16/2005	Rodriguez
	C381	2005/0127160	06/16/2005	Fujikawa
	C382	6,910,023	06/21/2005	Schibi
	C383	2005/0143136	06/30/2005	Lev et al.
	C384	6,913,188	07/05/2005	Wong
	C385	2005/0149436	07/07/2005	Elterich
	C386	2005/0168566	08/04/2005	Tada
	C387	2005/0171899	08/04/2005	Dunn
	C388	2005/0171907	08/04/2005	Lewis
	C389	2005/0177499	08/11/2005	Thomas
	C390	2005/0177518	08/11/2005	Brown
	C391	2005/0177494	08/11/2005	Kelly et al.
	C392	2005/0177510 A1	08/11/2005	Hilt et al.
	C393	6,931,591	08/16/2005	Brown
	C394	2005/0182710	08/18/2005	Anderson
	C395	6,934,719	08/23/2005	Nally
	C396	2005/0188306	08/25/2005	Mackenzie
	C397	2005/0203430	09/15/2005	Williams et al.
	C398	2005/0209961	09/22/2005	Michelsen
	C399	2005/0205661	09/22/2005	Taylor

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C400	2005/0213805	09/29/2005	Blake et al.
	C401	2005/0220324	10/06/2005	Klein et al.
	C402	2005/0218209	10/06/2005	Heilper et al.
	C403	2005/0228733	10/13/2005	Bent et al.
	C404	6,957,770	10/25/2005	Robinson
	C405	6,961,689	11/01/2005	Greenberg
	C406	2005/0244035	11/03/2005	Klein et al.
	C407	2005/0252955	11/17/2005	Sugai
	C408	6,970,843	11/29/2005	Forte
	C409	2005/0267843	12/01/2005	Acharya et al.
	C410	2005/0268107	12/01/2005	Harris et al.
	C411	6,973,589	12/05/2005	Wright
	C412	2005/0269412	12/08/2005	Chiu
	C413	2005/0273368	12/08/2005	Hutten et al.
	C414	2005/0278250	12/15/2005	Zair
	C415	2005/0281471	12/22/2005	LeConte
	C416	2005/0281474	12/22/2005	Huang
	C417	2005/0281448	12/22/2005	Lugg
	C418	2005/0289030	12/29/2005	Smith
	C419	2005/0289182	12/29/2005	Pandian et al.
	C420	2006/0004660	01/05/2006	Pranger
	C421	2006/0002426	01/05/2006	Madour
	C422	6,983,886	01/10/2006	Natsukari et al.
	C423	2006/0017752	01/26/2006	Kurzweil et al.
	C424	6,993,507	01/31/2006	Meyer
	C425	2006/0025697	02/02/2006	Kurzweil
	C426	6,996,263	02/07/2006	Jones et al.
	C427	6,999,943	02/14/2006	Johnson
	C428	7,003,040	02/21/2006	Yi
	C429	2006/0039629	02/23/2006	Li et al.
	C430	2006/0039628	02/23/2006	Li et al.
	C431	2006/0041506	02/23/2006	Mason et al.
	C432	7,004,382	02/28/2006	Sandru
	C433	2006/0045321	03/02/2006	Yu
	C434	2006/0047593	03/02/2006	Naratil
	C435	7,010,507	03/07/2006	Anderson
	C436	7,010,155	03/07/2006	Koakutsu et al.
	C437	2006/0053056	03/09/2006	Alspach-Goss
	C438	2006/0049242	03/09/2006	Mejias et al.
	C439	2006/0059085	03/16/2006	Tucker
	C440	7,016,704	03/21/2006	Pallakoff
	C441	2006/0064368	03/23/2006	Forte
	C442	2006/0080245	04/13/2006	Bahl
	C443	2006/0085357	04/20/2006	Pizarro
	C444	2006/0085516	04/20/2006	Farr et al.
	C445	7,039,048	05/02/2006	Monta
	C446	2006/0102704	05/18/2006	Reynders
	C447	2006/0106691	05/18/2006	Sheaffer
	C448	2006/0106717	05/18/2006	Randle
	C449	2006/0110063	05/25/2006	Weiss
	C450	2006/0112013	05/25/2006	Maloney
	C451	2006/0108168	05/25/2006	Fischer et al.

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C452	2006/0115110	06/01/2006	Rodriguez
	C453	2006/0115141	06/01/2006	Koakutsu et al.
	C454	7,058,036	06/06/2006	Yu
	C455	2006/0118613	06/08/2006	McMann
	C456	7,062,768	06/13/2006	Kubo
	C457	7,062,456	06/13/2006	Riehl et al.
	C458	7,062,099	06/13/2006	Li et al.
	C459	2006/0124730	06/15/2006	Maloney
	C460	7,072,862	07/04/2006	Wilson
	C461	2006/0144924	07/06/2006	Stover
	C462	2006/0144950	07/06/2006	Johnson
	C463	2006/0144937	07/06/2006	Heilper et al.
	C464	7,076,458	07/11/2006	Lawlor et al.
	C465	2006/0161501	07/20/2006	Waserstein
	C466	2006/0159367	07/20/2006	Zeineh et al.
	C467	2006/0161499	07/20/2006	Rich et al.
	C468	2006/0164682	07/27/2006	Lev
	C469	2006/0167818	07/27/2006	Wentker et al.
	C470	2006/0166178	07/27/2006	Driedijk
	C471	7,086,003	08/01/2006	Demsky
	C472	7,092,561	08/15/2006	Downs, Jr.
	C473	2006/0182331	08/17/2006	Gilson et al.
	C474	2006/0182332 A1	08/17/2006	Weber
	C475	2006/0181614	08/17/2006	Yen et al.
	C476	2006/0186194	08/24/2006	Richardson et al.
	C477	7,104,443	09/12/2006	Paul et al.
	C478	2006/0206506	09/14/2006	Fitzpatrick
	C479	2006/0210138	09/21/2006	Hilton et al.
	C480	2006/0208059	09/21/2006	Cable et al.
	C481	2006/0212391	09/21/2006	Norman et al.
	C482	7,113,925	09/26/2006	Waserstein
	C483	2006/0214940	09/28/2006	Kinoshita
	C484	2006/0215204	09/28/2006	Miyamoto et al.
	C485	2006/0215230	09/28/2006	Borrey et al.
	C486	7,114,649	10/03/2006	Nelson
	C487	2006/0222260	10/05/2006	Sambongi et al.
	C488	2006/0229976	10/12/2006	Jung
	C489	2006/0229986	10/12/2006	Corder
	C490	2006/0242062	10/26/2006	Peterson
	C491	2006/0238503	10/26/2006	Smith
	C492	2006/0242063	10/26/2006	Peterson
	C493	7,131,571	11/07/2006	Swift et al.
	C494	2006/0249567	11/09/2006	Byrne
	C495	7,139,594	11/21/2006	Nagatomo
	C496	7,140,539	11/28/2006	Crews
	C497	2006/0274164	12/07/2006	Kimura et al.
	C498	2006/0279628	12/14/2006	Fleming
	C499	2006/0282383	12/14/2006	Doran
	C500	2006/0291744	12/28/2006	Ikeda et al.
	C501	7,163,347	01/16/2007	Lugg
	C502	2007/0013721 A1	01/18/2007	Vau
	C503	2007/0016796	01/18/2007	Singhal

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C504	2007/0019243	01/25/2007	Sato
	C505	2007/0022053	01/25/2007	Waserstein
	C506	2007/0027802	02/01/2007	VanDeburg et al.
	C507	2007/0031022	02/08/2007	Frew
	C508	2007/0030357	02/08/2007	Levien et al.
	C509	2007/0038561	02/15/2007	Vancini et al.
	C510	7,181,430	02/20/2007	Buchanan et al.
	C511	7,178,721	02/20/2007	Maloney
	C512	2007/0041629	02/22/2007	Prakash et al.
	C513	7,184,980	02/27/2007	Allen-Rouman et al.
	C514	2007/0050292	03/01/2007	Yarbrough
	C515	7,185,805	03/06/2007	McShirley
	C516	2007/0053574	03/08/2007	Verma et al.
	C517	2007/0058851	03/15/2007	Quine
	C518	2007/0063016	03/22/2007	Myatt
	C519	2007/0064991	03/22/2007	Douglas et al.
	C520	2007/0065143	03/22/2007	Didow et al.
	C521	7,197,173	03/27/2007	Jones et al.
	C522	7,200,255	04/03/2007	Jones
	C523	2007/0075772	04/05/2007	Kokubo
	C524	2007/0077921	04/05/2007	Hayashi
	C525	2007/0076940	04/05/2007	Goodall et al.
	C526	2007/0080207	04/12/2007	Williams
	C527	2007/0082700	04/12/2007	Landschaft
	C528	7,204,412	04/17/2007	Foss, Jr.
	C529	2007/0084911	04/19/2007	Crowell
	C530	2007/0086642	04/19/2007	Foth
	C531	2007/0086643	04/19/2007	Spier
	C532	2007/0094088	04/26/2007	Mastie
	C533	2007/0094140	04/26/2007	Riney et al.
	C534	2007/0100748	05/03/2007	Dheer
	C535	7,216,106	05/08/2007	Buchanan
	C536	7,219,082	05/15/2007	Forte
	C537	2007/0110277	05/17/2007	Hayduchok et al.
	C538	7,219,831	05/22/2007	Murata
	C539	2007/0118472	05/24/2007	Allen-Rouman et al.
	C540	2007/0122024	05/31/2007	Haas et al.
	C541	2007/0124241	05/31/2007	Newton
	C542	2007/0129955	06/07/2007	Dalmia
	C543	2007/0127805	06/07/2007	Foth et al.
	C544	2007/0136198	06/14/2007	Foth et al.
	C545	2007/0131758	06/14/2007	Mejias et al.
	C546	2007/0140594	06/21/2007	Franklin
	C547	2007/0143208	06/21/2007	Varga
	C548	2007/0140545	06/21/2007	Rossignoli
	C549	2007/0150337	06/28/2007	Hawkins et al.
	C550	2007/0156438	07/05/2007	Popadic et al.
	C551	2007/0154098	07/05/2007	Geva et al.
	C552	2007/0168265	07/19/2007	Rosenberger
	C553	2007/0168283	07/19/2007	Alvarez et al.
	C554	7,249,076	07/24/2007	Pendleton
	C555	2007/0171288	07/26/2007	Inoue

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C556	2007/0172107	07/26/2007	Jones et al.
	C557	2007/0172148	07/26/2007	Hawley
	C558	2007/0179883	08/02/2007	Questembert
	C559	7,252,224	08/07/2007	Verma
	C560	2007/0183000	08/09/2007	Eisen et al.
	C561	2007/0183741	08/09/2007	Lerman et al.
	C562	7,257,246	08/14/2007	Brodie et al.
	C563	2007/0194102	08/23/2007	Cohen
	C564	2007/0198432	08/23/2007	Pitroda et al.
	C565	2007/0203708	08/30/2007	Polycn et al.
	C566	7,266,230	09/04/2007	Doran
	C567	2007/0206877	09/06/2007	Wu et al.
	C568	2007/0208816	09/06/2007	Baldwin et al.
	C569	2007/0214086	09/13/2007	Homoki
	C570	2007/0217669	09/20/2007	Swift et al.
	C571	7,277,191	10/02/2007	Metcalfe et al.
	C572	2007/0233585	10/04/2007	Ben Simon et al.
	C573	2007/0233525	10/04/2007	Boyle
	C574	2007/0235518	10/11/2007	Mueller et al.
	C575	2007/0235520	10/11/2007	Smith et al.
	C576	2007/0241179	10/18/2007	Davis
	C577	2007/0244782	10/18/2007	Chimento
	C578	2007/0246525	10/25/2007	Smith et al.
	C579	7,290,034	10/30/2007	Budd
	C580	2007/0255652	11/01/2007	Tumminaro
	C581	2007/0251992	11/01/2007	Sharma et al.
	C582	2007/0255653	11/01/2007	Tumminaro
	C583	2007/0255662	11/01/2007	Tumminaro
	C584	2007/0258634	11/08/2007	Simonoff
	C585	2007/0268540	11/22/2007	Gaspardo et al.
	C586	2007/0271182	11/22/2007	Prakash et al.
	C587	7,299,970	11/27/2007	Ching
	C588	7,299,979	11/27/2007	Phillips
	C589	2007/0278286	12/06/2007	Crowell et al.
	C590	2007/0288380	12/13/2007	Starrs
	C591	2007/0288382	12/13/2007	Narayanan et al.
	C592	7,313,543	12/25/2007	Crane
	C593	2007/0295803	12/27/2007	Levine et al.
	C594	2007/0299928	12/27/2007	Kohli et al.
	C595	7,314,163	01/01/2008	Crews et al.
	C596	2008/0002911	01/03/2008	Eisen
	C597	2008/0010204	01/10/2008	Rackley III et al.
	C598	7,321,874	01/22/2008	Dilip
	C599	7,321,875	01/22/2008	Dilip
	C600	2008/0021802	01/24/2008	Pendelton
	C601	7,325,725	02/05/2008	Foss, Jr.
	C602	7,328,190	02/05/2008	Smith et al.
	C603	7,330,604	02/12/2008	Wu et al.
	C604	2008/0040280	02/14/2008	Davis et al.
	C605	7,331,523	02/19/2008	Meier et al.
	C606	7,336,813	02/26/2008	Prakash et al.
	C607	2008/0052182	02/28/2008	Marshall

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C608	2008/0059376	03/06/2008	Davis
	C609	7,343,320	03/11/2008	Treyz
	C610	2008/0063253	03/13/2008	Wood
	C611	2008/0071721	03/20/2008	Wang
	C612	2008/0068674	03/20/2008	McIntyre
	C613	7,349,566	03/25/2008	Jones et al.
	C614	2008/0073423	03/27/2008	Heit et al.
	C615	2008/0080760	04/03/2008	Ronca
	C616	7,356,505	04/08/2008	March
	C617	2008/0086421	04/10/2008	Gilder
	C618	2008/0086420	04/10/2008	Gilder et al.
	C619	2008/0086770	04/10/2008	Kulkarni et al.
	C620	2008/0091599	04/17/2008	Foss, Jr.
	C621	2008/0097899	04/24/2008	Jackson et al.
	C622	2008/0103790	05/01/2008	Abernethy
	C623	2008/0103967	05/01/2008	Ackert et al.
	C624	2008/0114739	05/15/2008	Hayes
	C625	2008/0113674	05/15/2008	Baig
	C626	2008/0115066	05/15/2008	Pavley et al.
	C627	2008/0117991	05/22/2008	Peddireddy
	C628	2008/0119178	05/22/2008	Peddireddy
	C629	2008/0116257 A1	05/22/2008	Fickling
	C630	7,377,425	05/27/2008	Ma
	C631	7,379,978	05/27/2008	Anderson
	C632	7,383,227	06/03/2008	Weinflash et al.
	C633	2008/0133411	06/05/2008	Jones et al.
	C634	7,385,631	06/10/2008	Maeno
	C635	7,386,511	06/10/2008	Buchanan
	C636	2008/0140579	06/12/2008	Sanjiv
	C637	2008/0147549	06/19/2008	Ruthbun
	C638	7,391,897	06/24/2008	Jones et al.
	C639	7,391,934	06/24/2008	Goodall et al.
	C640	2008/0155672	06/26/2008	Sharma
	C641	7,392,935	07/01/2008	Byrne
	C642	2008/0156438	07/03/2008	Stumphauzer et al.
	C643	2008/0162371	07/03/2008	Rampell et al.
	C644	2008/0162350	07/03/2008	Allen-Rouman et al.
	C645	2008/0162319 A1	07/03/2008	Breeden et al.
	C646	7,401,048	07/15/2008	Rosedale
	C647	7,403,917	07/22/2008	Larsen
	C648	2008/0177659	07/24/2008	Lacey et al.
	C649	7,406,198	07/29/2008	Aoki et al.
	C650	2008/0180750	07/31/2008	Feldman
	C651	2008/0208727	08/28/2008	McLaughlin et al.
	C652	2008/0205751	08/28/2008	Mischler
	C653	7,421,107	09/02/2008	Lugg
	C654	7,421,410	09/02/2008	Schechtman et al.
	C655	2008/0214180	09/04/2008	Cunningham et al.
	C656	2008/0219543	09/11/2008	Csulits
	C657	7,427,016	09/23/2008	Chimento
	C658	7,433,098	10/07/2008	Klein et al.
	C659	2008/0247629	10/09/2008	Gilder

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	C660	2008/0249931	10/09/2008	Gilder et al.
	C661	2008/0249951	10/09/2008	Gilder et al.
	C662	2008/0245869	10/09/2008	Berkun et al.
	C663	2008/0247655	10/09/2008	Yano
	C664	7,437,327	10/14/2008	Lam
	C665	7,440,924	10/21/2008	Buchanan
	C666	2008/0262953	10/23/2008	Anderson
	C667	2008/0262950	10/23/2008	Christensen et al.
	C668	7,447,347	11/04/2008	Weber
	C669	2008/0275821	11/06/2008	Bishop et al.
	C670	7,455,220	11/25/2008	Phillips
	C671	7,455,221	11/25/2008	Sheaffer
	C672	7,460,108	12/02/2008	Tamura
	C673	2008/0301441	12/04/2008	Calman et al.
	C674	7,461,779	12/09/2008	Ramachandran
	C675	7,461,780	12/09/2008	Potts
	C676	2008/0304769	12/11/2008	Hollander et al.
	C677	7,464,859	12/16/2008	Hawkins
	C678	2008/0316542	12/25/2008	Mindrum et al.
	C679	7,471,818	12/30/2008	Price
	C680	7,475,040	01/06/2009	Buchanan
	C681	7,477,923	01/13/2009	Wallmark
	C682	7,480,382	01/20/2009	Dunbar
	C683	7,480,422	01/20/2009	Ackley et al.
	C684	2009/0024520	01/22/2009	Drory et al.
	C685	7,489,953	02/10/2009	Griffin
	C686	7,490,242	02/10/2009	Torres
	C687	2009/0046938	02/19/2009	Yoder
	C688	7,497,429	03/03/2009	Reynders
	C689	2009/0060396	03/05/2009	Blessan et al.
	C690	2009/0066987 A1	03/12/2009	Inokuchi
	C691	7,506,261	03/17/2009	Statou
	C692	7,503,486	03/17/2009	Ahles
	C693	7,505,759	03/17/2009	Rahman
	C694	7,509,287	03/24/2009	Nutahara
	C695	7,512,564	03/31/2009	Geer
	C696	2009/0094148	04/09/2009	Gilder et al.
	C697	7,519,560	04/14/2009	Lam
	C698	7,520,420	04/21/2009	Phillips
	C699	7,520,422	04/21/2009	Robinson et al.
	C700	2009/0108080	04/30/2009	Meyer
	C701	2009/0110281	04/30/2009	Hirabayashi
	C702	7,536,440	05/19/2009	Budd
	C703	7,536,354	05/19/2009	deGroeve et al.
	C704	7,539,646	05/26/2009	Gilder
	C705	7,542,598	06/02/2009	Jones
	C706	7,540,408	06/02/2009	Levine
	C707	2009/0141962	06/04/2009	Borgia et al.
	C708	7,545,529	06/09/2009	Borrey et al.
	C709	7,548,641	06/16/2009	Gilson et al.
	C710	2009/0164370	06/25/2009	Sorbe et al.
	C711	2009/0164350	06/25/2009	Sorbe et al.

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.O.O/ Page 27 of 32

EXAMINER INITIAL	Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
	C1118	Claims as filed on April 30, 2013 for U.S. Appln No. 13/874,145 (5 pgs).
	C1119	Claims as filed on August 19, 2010 for U.S. Appln No. 12/859,752 (5 pgs).
	C1120	Claims as filed on August 21, 2009 for U.S. Appln No. 12/545,127 (5 pgs).
	C1121	Claims as filed on December 15, 2011 for U.S. Appln No. 13/327,478 (4 pgs).
	C1122	Claims as filed on December 20, 2006 for U.S. Appln No. 11/613,671 (3 pgs).
	C1123	Claims as filed on December 20, 2012 for U.S. Appln No. 13/722,576 (4 pgs).
	C1124	Claims as filed on December 28, 2016 for U.S. Appln No. 15/392,950 (5 pgs).
	C1125	Claims as filed on December 29, 2005 for U.S. Appln No. 11/320,998 (3 pgs).
	C1126	Claims as filed on December 29, 2005 for U.S. Appln No. 11/321,027 (3 pgs).
	C1127	Claims as filed on December 8, 2010 for U.S. Appln No. 12/963,513 (7 pgs).
	C1128	Claims as filed on December 9, 2015 for U.S. Appln No. 14/964,279 (5 pgs).
	C1129	Claims as filed on February 12, 2013 for U.S. Appln No. 13/765,412 (1 pg).
	C1130	Claims as filed on February 15, 2012 for U.S. Appln No. 13/397,437 (6 pgs).
	C1131	Claims as filed on February 16, 2011 for U.S. Appln No. 13/028,477 (3 pgs).
	C1132	Claims as filed on February 16, 2015 for U.S. Appln No. 14/623,179 (10 pgs).
	C1133	Claims as filed on February 19, 2013 for U.S. Appln No. 13/770,048 (4 pgs).
	C1134	Claims as filed on February 3, 2016 for U.S. Appln No. 15/014,918 (5 pgs).
	C1135	Claims as filed on January 20, 2011 for U.S. Appln No. 13/010,644 (9 pgs).
	C1136	Claims as filed on January 31, 2011 for U.S. Appln No. 13/017,865 (11 pgs).
	C1137	Claims as filed on July 19, 2017 for U.S. Appln No. 15/654,497 (1 pg).
	C1138	Claims as filed on July 28, 2017 for U.S. Appln No. 15/663,284 (6 pgs).
	C1139	Claims as filed on July 28, 2017 for U.S. Appln No. 15/663,305 (6 pgs).
	C1140	Claims as filed on June 12, 2015 for U.S. Appln No. 14/738,340 (4 pgs).
	C1141	Claims as filed on June 13, 2012 for U.S. Appln No. 13/495,971 (36 pgs).
	C1142	Claims as filed on June 15, 2016 for U.S. Appln No. 15/183,461 (36 pgs).
	C1143	Claims as filed on June 20, 2013 for U.S. Appln No. 13/922,686 (7 pgs).
	C1144	Claims as filed on June 9, 2014 for U.S. Appln No. 14/299,456 (36 pgs).
	C1145	Claims as filed on March 15, 2007 for U.S. Appln No. 11/686,925 (5 pgs).
	C1146	Claims as filed on March 20, 2014 for U.S. Appln No. 14/220,799 (1 pg). (NOT 25th)
	C1147	Claims as filed on March 23, 2017 for U.S. Appln No. 15/467,167 (4 pgs).
	C1148	Claims as filed on March 25, 2014 for U.S. Appln No. 14/224,944 (4 pgs).
	C1149	Claims as filed on March 25, 2014 for U.S. Appln No. 14/225,090 (1 pg).
	C1150	Claims as filed on March 3, 2014 for U.S. Appln No. 14/195,482 (4 pgs).
	C1151	Claims as filed on May 10, 2007 for U.S. Appln No. 11/747,223 (4 pgs).
	C1152	Claims as filed on May 18, 2011 for U.S. Appln No. 13/110,077 (9 pgs).
	C1153	Claims as filed on May 2, 2011 for U.S. Appln No. 13/098,566 (10 pgs).
	C1154	Claims as filed on November 20, 2012 for U.S. Appln No. 13/682,268 (4 pgs).
	C1155	Claims as filed on November 23, 2016 for U.S. Appln No. 15/360,738 (3 pgs).
	C1156	Claims as filed on November 25, 2015 for U.S. Appln No. 14/952,625 (1 pg).
	C1157	Claims as filed on November 7, 2016 for U.S. Appln No. 15/345,190 (5 pgs).
	C1158	Claims as filed on October 09, 2015 for U.S. Appln No. 14/879,868 (4 pgs).
	C1159	Claims as filed on October 16, 2014 for U.S. Appln No. 14/516,335 (4 pgs).
	C1160	Claims as filed on October 16, 2014 for U.S. Appln No. 14/516,350 (4 pgs).
	C1161	Claims as filed on October 16, 2014 for U.S. Appln No. 14/516,364 (4 pgs).
	C1162	Claims as filed on October 2, 2017 for U.S. Appln No. 15/722,836 (4 pgs).
	C1163	Claims as filed on October 23, 2007 for U.S. Appln No. 11/877,382 (6 pgs).
	C1164	Claims as filed on October 24, 2008 for U.S. Appln No. 12/257,471 (4 pgs).
	C1165	Claims as filed on October 25, 2017 for U.S. Appln No. 15/792,966 (5 pgs).
	C1166	Claims as filed on October 31, 2006 for U.S. Appln No. 11/590,963 (3 pgs).
	C1167	Claims as filed on October 31, 2006 for U.S. Appln No. 11/590,995 (3 pgs).
	C1168	Claims as filed on October 31, 2006 for U.S. Appln No. 11/590,998 (4 pgs).

Examiner Signature	/OJO O OYEBISI/	Date Considered	12/21/2018

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.O.O/ Page 28 of 32

EXAMINER INITIAL	Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
	C1169	Claims as filed on October 31, 2006 for U.S. Appln No.11/591,131 (4 pgs).
	C1170	Claims as filed on October 31, 2007 for U.S. Appln No. 11/931,804 (4 pgs).
	C1171	Claims as filed on October 8, 2007 for U.S. Appln No. 11/868,878 (4 pgs).
	C1172	Claims as filed on September 14, 2012 for U.S. Appln No. 13/619,026 (3 pgs).
	C1173	Claims as filed on September 2, 2008 for U.S. Appln No. 12/202,781 (4 pgs).
	C1174	Claims as filed on September 4, 2015 for U.S. Appln No. 14/846,586 (7 pgs).
	C1175	Claims as filed on September 5, 2017 for U.S. Appln No. 15/695,770 (7 pgs).
	C1176	Claims as filed on September 8, 2008 for U.S. Appln No. 12/206,001 (3 pgs).
	C1177	Claims as filed on September 8, 2008 for U.S. Appln No. 12/206,007 (3 pgs).
	C1178	Claims as filed September 19, 2017 for U.S. Appln No. 15/709,071 (1 pgs).
	C1179	Claims as filed September 19, 2017 for U.S. Appln No. 15/709,126 (1 pgs).
	C1180	Claims as filed September 19, 2017 for U.S. Appln No. 15/709,143 (x pgs).
	C1181	Final Office Action dated May 18, 2017 from corresponding U.S. Appln No. 14/225,090 (8 pgs).
	C1182	Office Action dated October 6, 2016 from corresponding U.S. Appln No. 14/225,090 (6 pgs).
	C1183	Final Office Action dated September 30, 2015 from corresponding U.S. Appln No. 14/225,090 (10 pgs).
	C1184	Office Action dated February 24, 2015 from corresponding U.S. Appln No. 14/225,090 (7 pgs).
	C1185	Office Action dated October 18, 2017 from corresponding U.S. Appln No. 15/709,071 (13 pgs)
	C1186	Office Action dated November 1, 2017 from corresponding U.S. Appln No. 15/709,126 (9 pgs)
	C1187	Office Action dated November 7, 2017 from corresponding U.S. Appln No. 15/709,143 (13 pgs)
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	C1189	Office Action from corresponding U.S. Appln No. 11/591,003 dated June 27, 2011 (13 pages)
	C1190	Final Office Action from corresponding U.S. Appln No. 11/591,003 dated June 9, 2010 (15 pages)
	C1191	Office Action from corresponding U.S. Appln No. 11/591,003 dated December 10, 2009 (14 pages)
	C1192	Final Office Action from corresponding U.S. Appln No. 11/591,003 dated October 17, 2008 (11 pages)
	C1193	Office Action from corresponding U.S. Appln No. 11/591,003 dated March 17, 2008 (11 pages)
	C1194	Notice of Allowance from corresponding U.S. Appln No. 11/590,974 dated December 13, 2013 (9 pages)
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	C1196	Office Action from corresponding U.S. Appln No. 11/590,974 dated November 12, 2008 (13 pages)
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	C1199	"Exchangeable image file format for digital still cameras: Exif Version 2.2," Standard of Electronics and Information Technology Industries Associate, JEITA CP-3451, Technical Standardization Committee on AV & IT Storage Systems and Equipments, Japan Electronics and Information Technology Industries Association, April 2002 (154 pgs).

Examiner Signature	/OJO O OYEBISI/	Date Considered	12/21/2018

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.O.O/ Page 29 of 32

EXAMINER INITIAL	Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
	C1200	Braun, Tim, "Camdesk - Towards Portable and Easy Document Capture," Image Understanding and Pattern Recognition Research Group, Department of Computer Science, University of Kaiserslautern, Technical Report, March 29, 2005 (64 pgs).
	C1201	Doermann, David et al., "Progress in Camera-Based Document Image Analysis," IEEE Computer Society, (ICDAR 2003) 2003 (11 pgs).
	C1202	Lampert, Christoph et al., "Oblivious Document Capture and Real-Time Retrieval," International Workshop on Camera Based Document Analysis and Recognition (CBDAR), 2005 (8 pgs).
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	C1204	Claims as filed January 24, 2018 for U.S. Appln No. 15/878,821 (5 pgs).
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	C1206	Claims as filed on April 9, 2018 for U.S. Appln No. 15/948,510 (5 pgs)
	C1207	Claims as filed on April 9, 2018 for U.S. Appln No. 15/948,549 (5 pgs)
	C1208	Examiner's Answer to Appeal Brief dated February 08, 2018 from correpsonding U.S. Appln 14/225,090 (10 pgs.).
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	C1217	Constanzo, Chris, "Remote Check Deposit: Wells Captures A New Checking Twist", Bank Technology News Article – May 2005, www.americanbanker.com/btn_article.html?id=20050502YQ50FSYG (2 pgs)
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	C1219	Credit Union Journal, "AFCU Averaging 80 DepositHome Transactions Per Day", Credit Union Journal, August 15, 2005 (1 pg)
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Examiner Signature	/OJO O OYEBISI/	Date Considered	12/21/2018

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.O.O/ Page 30 of 32

EXAMINER INITIAL	Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
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	C1224	Johnson, Jennifer J., Secretary of the Board; Federal Reserve System, 12 CFR Part 229, Regulation CC; Docket No. R 1176, "Availability of Funds and Collection of Checks". Cited in patent no. 7,900,822, as dated 2009, (89 pgs)
	C1225	Liang, Jian et al., Camera-Based Analysis of Text and Documents: A Survey, International Journal on Document Analysis and Recongition, June 21, 2005, 21 pages.
	C1226	Luo, Xi-Peng et al., "Design and Implementation of a Card Reader Based on Build-In Camera," Proceedings of the 17th International Conference on Pattern Recognition, 2004, 4 pages.
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	C1232	RemoteDepositCapture.com, Remote Deposit Capture News Articles from July 6, 2006, "BankServ Announces New Remote Deposit Product Integrated with QuickBooks" (3 pgs)
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	C1235	Zandifar, A., "A Video-Based Framework for the Analysis of Presentations/Posters," International Journal on Document Analysis and Recognition, February 2, 2005, 10 pages.
	C1236	Will Wade, "Early Debate on Remote-Capture Risk," American Banker, (26 May 2004).
	C1237	Anonymous, "Clearing House Electronic Check Clearing System ("CHECCS") Operating Rules," An IP.com Prior Art Database Technical Disclosure, (29 July 2005).
	C1238	Steve Bills, "Automated Amount Scanning is Trend in Remote-Deposit," American Banker, (30 August 2005).

Examiner Signature	/OJO O OYEBISI/	Date Considered	12/21/2018

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.O.O/ Page 31 of 32

1. PRIORITY INFORMATION:

☒ This application claims priority under 35 USC §120 to the following United States patent application(s): 15/663,284; 14/225,090 and 11/590,974. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

2. CERTIFICATIONS: (CHECK ALL THAT APPLY)

A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

B. For Patent Term Adjustment Purposes:

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant hereby certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

3. FEE INFORMATION: (CHECK IF FEE REQUIRED)

☒ Applicant has calculated a processing fee in the amount of $240 (large entity) to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging the fee to Deposit Account 50-4184.

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184.

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

November 15, 2018
Date

/Peter S. Lee/
Peter S. Lee (Reg. No. 64,728)

Examiner Signature		Date Considered	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.O.O/ Page 32 of 32

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: November 14, 2018 Name: Peter S. Lee (Reg. No. 64,728) Signature: /Peter S. Lee/

BRINKS GILSON & LIONE 100 YEARS OF IP LAW

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16/025,701
	Filing Date	July 2, 2018
	First Named Inventor	Charles Lee Oakes
	Art Unit	3697
	Confirmation Number	8845
	Examiner Name	Ojo O. Oyebisi
	Attorney Docket No.	US-0152.09|14538-649

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

US PATENT REFERENCES

EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	B1	6,931,255 B2	08/16/2015	Mekuria
	B2	7,120,461 B2	10/10/2006	Cho
	B3	7,419,093 B1	09/02/2008	Blackson et al.
	B4	2007/0262148 A1	11/15/2007	Yoon

FOREIGN PATENT REFERENCES

EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	COUNTRY	TRANSLATION YES OR NO
	B				

OTHER ART – NON PATENT LITERATURE DOCUMENTS

EXAMINER INITIAL		Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	B5	Petition filed by Wells Fargo Bank, N.A. for Covered Business Method Review of Claims 1-20 of US Patent No. 9,818,090, dated November 8, 2018, 90 pgs.
	B6	Petition filed by Wells Fargo Bank, N.A. for Covered Business Method Review of Claims 1-20 of US Patent No. 9,336,517, dated November 8, 2018, 98 pgs.
	B7	Petition filed by Wells Fargo Bank, N.A. for Covered Business Method Review of Claims 1-20 of US Patent No.8,977,571, dated November 8, 2018, 95 pgs.
	B8	Petition filed by Wells Fargo Bank, N.A. for Covered Business Method Review of Claims 1-23 of US Patent No. 8,699,779, dated November 8, 2018, 101 pgs.

1. PRIORITY INFORMATION:

☒ This application claims priority under 35 USC §120 to the following United States patent application(s): US Serial No. 15/663,284; 14/225,090 and 11/590,974. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

Examiner Signature	/OJO O OYEBISI/	Date Considered	12/21/2018

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.O.O/ Page 1 of 2

2. CERTIFICATIONS: (CHECK ALL THAT APPLY)

A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☒ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

B. For Patent Term Adjustment Purposes:

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant hereby certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

3. FEE INFORMATION: (CHECK IF FEE REQUIRED)

☐ Applicant has calculated a processing fee in the amount of $_ to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging the fee to Deposit Account. _

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184.

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

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Respectfully submitted,

November 14, 2018
Date

/Peter S. Lee/
Peter S. Lee (Reg. No. 64728)

Examiner Signature		Date Considered	

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CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: September 28, 2018 Name: Scott W. Brim (Reg. No. 51,500) Signature: /Scott W. Brim/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	16/025,701
	Filing Date	July 2, 2018
	First Named Inventor	Charles Lee Oakes
	Art Unit	3697
	Confirmation Number	8845
	Examiner Name	Ojo O. Oyebisi
	Attorney Docket No.	US-0152.09 | 14538-649

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

US PATENT REFERENCES

EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	A1	5,077,805	12/31/1991	Tan
	A2	5,091,968	02/25/1992	Higgins et al.
	A3	5,164,833	11/17/1992	Aoki
	A4	5,237,620	08/17/1993	Deaton et al.
	A5	5,345,090	09/06/1994	Hludzinski
	A6	5,444,616	08/22/1995	Nair et al.
	A7	5,455,875	10/03/1995	Chevion et al.
	A8	6,059,185	05/09/2000	Funk et al.
	A9	6,148,102	11/14/2000	Stolin
	A10	6,181,837 B1	01/30/2001	Cahill et al.
	A11	6,351,735 B1	02/26/2002	Deaton et al.
	A12	6,473,519 B1	10/29/2002	Pidhirny et al.
	A13	2007/0076941 A1	04/05/2007	Carreon et al.
	A14	2007/0138255 A1	06/21/2007	Carreon et al.
	A15	2009/0076921 A1	03/19/2009	Nelson et al.
	A16	2009/0114716 A1	05/07/2009	Ramachandran

FOREIGN PATENT REFERENCES

EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	COUNTRY	TRANSLATION YES OR NO
	A				

OTHER ART – NON PATENT LITERATURE DOCUMENTS

EXAMINER INITIAL		Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	A17	Defendant Wells Fargo Bank, N.A.'s Answer, Affirmative Defenses, and Counterclaims to Plaintiff's Complaint, dated August 14, 2018, 64 pgs.
	A18	LEICA DIGILUX 2 Instructions located on the Internet: http://www.overgaard.dk/pdf/d2_manual.pdf (attached as Exhibit 2 from the Defendant Wells Fargo Bank N.A.'s Answer dated August 14, 2018), 95 pgs.

Examiner Signature	/OJO O OYEBISI/	Date Considered	12/21/2018

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.O.O/ *Page 1 of 4*

EXAMINER INITIAL	Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
	A19	SONY Digital Camera User's Guide/ Trouble Shooting Operating Instructions, copyright 2005, located on the Internet at: https://www.sony.co.uk/electronics/support/res/manuals/2654/26544941M.pdf (attached as Exhibit 3 from the Defendant Wells Fargo Bank N.A.'s Answer dated August 14, 2018), 136 pgs.
	A20	Panasonic Operating Instructions for Digital Camera/Lens Kit Model No. DMC-L1K, https://www.panasonic.com/content/dam/Panasonic/support_manual/Digital_Still_Camera/English_01-vqt0-vqt2/vqt0w95_L1_oi.pdf (attached as Exhibit 4 from the Defendant Wells Fargo Back N.A.'s Answer dated August 14, 2018), 129 pgs.
	A21	Nikon Digital Camera D300 User's Manual, located on the Internet at: http://download.nikonimglib.com/archive2/iBuJv00Aj97i01y8BrK49XX0Ts69/D300_EU(En)04.pdf (attached as Exhibit 5 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 195 pgs.
	A22	Canon EOS 40D Digital Camera Instruction Manual, located on the Internet at: http://gdlp01.c-wss.com/gds/6/0900008236/01/EOS40D_HG_EN.pdf (attached as Exhibit 6 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 38 pgs.
	A23	Motorola RAZR MAXX V6 User Manual, located on the Internet at: https://www.phonearena.com/phones/Motorola-RAZR-MAXX-V6_id1680, (attached as Exhibit 7 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 36 pgs.
	A24	MOTOMANUAL for MOTORAZR, located on the Internet at: https://www.cellphones.ca/downloads/phones/manuals/motorola-razr-v3xx-manual.pdf (excerpts attached as Exhibit 8 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 34 pgs.
	A25	Nokia N95 8GB User Guide, copyright 2009, located on the Internet at: https://www.nokia.com/en_int/phones/sites/default/files/user-guides/Nokia_N95_8GB_Extended_UG_en.pdf (excerpts attached as Exhibit 9 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 77 pgs.
	A26	Helio Ocean User Manual, located on the Internet at: https://standupwireless.com/wp-content/uploads/2017/04/Manual_PAN-TECH_OCEAN.pdf (excerpts attached as Exhibit 10 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 76 pgs.
	A27	HTC Touch Diamond Manual, copyright 2008, (attached as Exhibit 11 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 257 pgs.
	A28	*Automated Clearing Houses* (ACHs), Federal Reserve Bank of New York (May 2000) available at: https://www.newyorkfed.org/aboutthefed/fedpoint/fed31.html, (attached as Exhibit 12 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 4 pgs.
	A29	*POP, ARC and BOC—A Comparison*, Federal Reserve Banks, at 1(Jan. 7, 2009), available on the Internet at: https://web.archive.org/web/20090107101808/https://www.frbservices.org/files/eventseducation/ pdf/pop_arc_boc_comparison.pdf (attached as Exhibit 13 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 3 pgs.
	A30	David B. Humphrey & Robert Hunt, *Getting Rid of Paper: Savings From Check 21*, Working Paper No. 12-12, Research Department, Federal Reserve Bank of Philadelphia, (May 2012), available on the Internet at: https://philadelphiafed.org/-/media/research-and-data/publications/working-papers/2012/wp12-12.pdf, (attached as Exhibit 14 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 29 pgs.

Examiner Signature	/OJO O OYEBISI/	Date Considered	12/21/2018

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.O.O/

EXAMINER INITIAL	Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
	A31	Jeffrey M. Lacker, *Payment System Disruptions and the Federal Reserve Following September 11, 2001*, The Federal Reserve Bank of Richmond, (Dec. 23, 2003) (attached as Exhibit 19 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 55 pgs.
	A32	Check Clearing for the 21st Century Act Foundation for Check 21 Compliance Training, Federal Financial Institutions Examination Council, (Oct. 16, 2004), available on the Internet at: https://web.archive.org/web/20041016100648/https://www.ffiec.gov/exam/check21/check21foundationdoc.htm, (excerpts attached as Exhibit 20 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018),11 pgs.
	A33	*Big Red Book*, Adobe Systems Incorporated, copyright 2000, (attached as Exhibit 27 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 45 pgs.

1. PRIORITY INFORMATION:

☒ This application claims priority under 35 USC §120 to the following United States patent application(s): US Serial No. 15/663,284; US Serial No. 14/225,090 and US Serial No. 11/590,974. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

2. CERTIFICATIONS: (CHECK ALL THAT APPLY)

A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☒ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

B. For Patent Term Adjustment Purposes:

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant hereby certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

3. FEE INFORMATION: (CHECK IF FEE REQUIRED)

☐ Applicant has calculated a processing fee in the amount of _____ to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging the fee to Deposit Account. 50-4184.

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184.

Examiner Signature	/OJO O OYEBISI/	Date Considered	12/21/2018

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.O.O/ Page 3 of 4

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

September 28, 2018	/Scott W. Brim/
Date	Scott W. Brim (Reg. No. 51,500)

Examiner Signature		Date Considered	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.O.O/ *Page 4 of 4*

Electronic Acknowledgement Receipt

EFS ID:	34360106
Application Number:	16025701
International Application Number:	
Confirmation Number:	8845
Title of Invention:	DIGITAL CAMERA PROCESSING SYSTEM
First Named Inventor/Applicant Name:	Charles Lee Oakes
Customer Number:	16530
Filer:	Peter S. Lee/Jeff Skinner
Filer Authorized By:	Peter S. Lee
Attorney Docket Number:	US-0152.09 (14538-649)
Receipt Date:	20-NOV-2018
Filing Date:	02-JUL-2018
Time Stamp:	15:19:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	14538-649_Transmittal.pdf	120372 ab46d82c6062d6610e105f4e26dcccd2b5163c4a	no	1

Warnings:

Information:					
2	Amendment/Req. Reconsideration-After Non-Final Reject	14538-649_Amendment.pdf	176780 52b5dfbd50e348bd6d1eb2b0867e9312f6d29744	no	17
Warnings:					
Information:					
		Total Files Size (in bytes):	297152		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: November 20, 2018 Name: Peter S. Lee (Reg. No. 64,728) Signature: /Peter S. Lee/



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. of:	Charles Lee Oakes III, et al.		
Appln. No.:	16/025,701	Examiner:	Ojo O. Oyebishi
Filed:	July 2, 2018	Art Unit:	3697
For:	DIGITAL CAMERA PROCESSING SYSTEM	Conf. No.:	8845
Attorney Docket No.:	US-0152.09 (14538-649)		

TRANSMITTAL

Mail Stop Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Attached is/are:

☒ Amendment.

Fee calculation:

☒ No additional fee is required.

☐ Per 37 CFR §1.27, ☐ Applicant is small entity ☐ Applicant is micro entity.

☐ An extension fee in an amount of $_____ for a _____-month extension of time under 37 CFR § 1.136(a).

☐ A petition or processing fee in an amount of $_____ under 37 CFR § 1.1_____(_____).

☐ An additional filing fee has been calculated as shown below:

					Fee		Small Entity Fee		Micro Entity Fee	
	Claims Remaining After Amendment		Highest No. Previously Paid	Present Extra	Rate	Add'l Fee	Rate	Add'l Fee	Rate	Add'l Fee
Total		Minus			x $100 =	$	x $ 50 =	$	x $25 =	$
Independent		Minus			x $460 =	$	x $230 =	$	x $115 =	$
First Presentation of Multiple Dep. Claim					+ $820 =	$	+ $410 =	$	+ $205 =	$
					Total	$	Total	$	Total	$

Fee payment:

☐ Please charge Deposit Account No. 50-4184 in the amount of $_____ for _____.

☐ Payment by credit card in the amount of $_____ (Form PTO-2038 is attached).
WARNING: Information on this form may become public. **Credit card information should not be included on this form.**

☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 50-4184.

Respectfully submitted,

November 20, 2018
Date

/Peter S. Lee/
Peter S. Lee (Reg. No. 64,728)

BRINKS GILSON & LIONE
NBC Tower – Suite 3600, 455 N. Cityfront Plaza Drive, Chicago, IL 60611-5599

CERTIFICATE OF MAILING OR TRANSMISSION UNDER 37 C.F.R. §1.8

I hereby certify that this correspondence is being transmitted via the Office electronic filing system to the United States Patent and Trademark Office on the below date:

Date: November 20, 2018 Name: Peter S. Lee, Reg. No. 64,728 Signature: /Peter S. Lee/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

First Named Inventor: Charles Lee Oaks III Art Unit: 3697

Appln. No.: 16/025,701 Examiner: Ojo O Oyebishi

Filed: July 2, 2018 Confirmation No.: 8845

For: DIGITAL CAMERA PROCESSING SYSTEM

* * *

AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

In response to the Office action of August 21, 2018, please amend the above-identified application as indicated below.

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 8 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-24. (Cancelled).

25. (Currently Amended) A system comprising:

a computer system configured to receive a copy of a captured image of a check, process ~~and for processing~~ the check by mobile check deposit in a bank, and update a balance of an account based on an amount depicted in the check;

wherein the copy of the captured image is transmitted from a user's computing device configured to execute instructions of a downloadable program stored on a machine-readable medium, the instructions configured to, when executed, cause a processor of the user's computing device to:

instruct the user to capture the image of the check;

use a display screen of the user's computing device to assist the user in having a digital camera capture the image of the check;

assist the user as to an orientation for capturing the image of the check;

present the image of the check to the user after the image is captured; and

use a wireless network to transmit the copy of the captured image over a wireless communication link from the user's computing device and to the computer system.

26. (Previously Presented) The system of claim 25, wherein the system is configured to confirm that the mobile check deposit can go forward after

optical character recognition is performed on the check depicted in the captured image.

27. (Previously Presented) The system of claim 26, wherein the system is configured to initiate the mobile deposit after confirming the mobile check deposit.

28. (Previously Presented) The system of claim 26, wherein the optical character recognition includes determining an amount of the check and comparing the determined amount to an amount indicated by a user input.

29. (Previously Presented) The system of claim 26, wherein the optical character recognition includes reading a MICR line included in the image of the check.

30. (Previously Presented) The system of claim 26, wherein the system is configured to confirm that the mobile check deposit can go forward after duplicate detection is performed on the check.

31. (Previously Presented) The system of claim 25, wherein displayed instructions include assistance for the user to have the digital camera capture an image of a front side of the check and capture an image of a back side of the check.

32. (Previously Presented) The system of claim 31, wherein the system is configured to update the account after it is determined that some mark or signature is present in an endorsement location in the image of the back side of the check.

33. (Previously Presented) The system of claim 25, wherein the digital camera is separate from the user's computing device.

34. (Previously Presented) The system of claim 25, wherein the user's computing device is a PDA.

35. (Previously Presented) The system of claim 25, wherein the system is configured to convert the image of the check into a bi-tonal TIFF.

36. (Previously Presented) The system of claim 25, wherein the wireless network is a cellular network.

37. (Previously Presented) The system of claim 25, wherein the user's computing device further includes camera software that controls the digital camera, the camera software being separate from the downloadable program, the downloadable program at least partially controlling the camera software.

38. (Previously Presented) The system of claim 25, wherein the downloadable program manages capturing the image of the check.

39. (Previously Presented) The system of claim 25, wherein the downloadable program instructs the user to place the check in front of the digital camera before capturing the image of the check.

40. (Previously Presented) The system of claim 25, wherein the downloadable program further causes the user's computing device to:

receive input from the user indicating an amount of the check.

41. (Previously Presented) The system of claim 40, wherein the instructions are displayed after receiving the input from the user.

42. (Previously Presented) The system of claim 25, wherein the copy of the captured image is transmitted after the user is authenticated.

43. (Previously Presented) The system of claim 25, wherein the computer system is configured to generate a log file for the mobile check deposit.

44. (Previously Presented) The system of claim 43, wherein the log file includes an image of the check processed for mobile check deposit.

45. (Previously Presented) The system of claim 44, wherein the image is a bi-tonal TIFF.

46. (Previously Presented) The system of claim 25, wherein the copy of the captured image is a modified version of the image of the check.

47. (Previously Presented) The system of claim 46, wherein the copy of the captured image is in a different format than the image of the check.

48. (Previously Presented) The system of claim 25, further comprising a third-party vendor computer.

49. (Currently Amended) A system for allowing a user to deposit a check using the user's computing device, the system configured to authenticate the user using data representing a biometric measurement, the system including:

a computer system configured to receive a copy of a captured image of a check, process ~~and for processing~~ the check by mobile check deposit in a bank, and update a balance of an account based on an amount depicted in the check;

wherein the copy of the captured image is transmitted from a user's computing device configured to execute instructions of a downloadable program stored on a machine-readable medium, the instructions configured to, when executed, cause a processor of the user's computing device to:

authenticate a user based on the biometric measurement obtained corresponding to the user;

instruct the user to capture an image of a check;

use a display screen of the user's computing device to assist the user in capturing the image of the check; and

use a wireless network to transmit a copy of the captured image from the user's computing device to the computer system.

50. (Previously Presented) The system of claim 49, wherein a digital camera configured to capture the image of the check is separate from the user's computing device.

51. (Previously Presented) The system of claim 49, wherein the user's computing device is a PDA.

52. (Previously Presented) The system of claim 49, wherein the biometric measurement is representative of a fingerprint.

53. (Currently Amended) A method comprising:

receiving, by a computer system, a copy of a captured image of a check; and

[[for]] processing, by the computer system, the check by mobile check deposit in a bank and updating a balance of an account based on an amount depicted in the check;

wherein the copy of the captured image is transmitted from a user's computing device configured to implement the following method:

instructing, through a user's computing device, the user to capture an image of a check;

using a display screen of the user's computing device to assist the user in having a digital camera capture the image of the check;

assisting the user as to an orientation for capturing the image of the check;

presenting the image of the check to the user after the image is captured; and

using a wireless network to transmit a copy of the captured image over a wireless communication link from the user's computing device and to the computer system.

54. (Currently Amended) A method for allowing a user to deposit a check using the user's computing device, the method comprising:

receiving, by a computer system, a copy of a captured image of a check; and

[[for]] processing, by the computer system, the check for mobile check deposit in a bank and updating a balance of an account based on an amount depicted in the check;

wherein the copy of the captured image is transmitted from a user's computing device configured to implement the following method:

authenticating a user based on a biometric measurement obtained corresponding to the user;

instructing the user to capture an image of a check;

using a display screen of the user's computing device to assist the user in capturing the image of the check; and

using a wireless network to transmit a copy of the captured image from the user's computing device to the computer system.

REMARKS

Reconsideration of this application, as amended, is respectfully requested.

Claims 25-52 are currently pending, with Claims 25, 49, 53, and 54 being independent.

By this amendment, without acceding to the outstanding rejections, Claims 25, 49, 53 and 54 have been revised to correct typographical or grammatical errors.

In the Office action, Claims 25-54 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter; Claims 25-54 were rejected under § 102 as being anticipated by Viera et al. (U.S. 2014/0112571 A1) (hereinafter "Viera").

The examiner interview conducted October 18, 2018, is gratefully acknowledged. The parties to the interview addressed the § 101 and § 102 rejections. No agreement was reached during the interview; however, the following remarks incorporate arguments discussed during the interview.

New Priority Date: October 31, 2006

After the outstanding Office action was issued, applicant added a priority/benefit claim in this application, establishing continuity back to October 31, 2006. This changes the analysis in several respects and moots the outstanding rejections. First, for the § 101 rejections, the date to consider whether recited elements were "well-understood, routine, and conventional" is now 2006 instead of 2017. Second, for the § 102 rejection, the reference cited in the Office action does not qualify as prior art. For these and other reasons indicated herein, the outstanding rejections should be withdrawn.

Rejection under § 101

Applicant respectfully traverses the rejection under § 101.

Mayo/Alice First Step

The outstanding Office action asserts that the claims are "directed to an abstract idea of processing check image." *Office action* at 3. Applicant respectfully disagrees.

In *Solutran, Inc. v. US. Bancorp and Elavon, Inc.*, Case No. 13-cv-2637 (District Court of Minnesota) (Nov. 27, 2017), "the PTAB found that the basic, core concept of Claim 1 is a method of processing paper checks, which is more akin to a physical process than an abstract idea." *Solutran* at 15 (quoting *U.S. Bancorp v. Solutran*, CBM2014-00076, 2014 WL 3943913, at *8 (PTAB Aug. 7, 2014) (hereinafter "*Solutran PTAB Decision*")) (internal quotations omitted).

The Court agreed with the PTAB that the method was not an abstract idea. It said: "[a]s noted, the Court agrees with the PTAB that simply because individual elements of Claim 1 recite isolated, fundamental economic practices, such as 'crediting an account for a merchant,' when viewed as a whole, the claim's limitations demonstrate that the claim is not directed to an abstract concept." *Solutran* at 19-20 (citing *Solutran PTAB Decision* at *8). The Court further explained that: "[r]ather [than being directed to an abstract concept], the character of Claim 1 is directed to a physical process for processing paper checks that captures data from a paper check at the merchant's point of purchase, and uses the data to credit a merchant's account, while the same paper check is later scanned in a different location to create an image of that check." *Id.*

In the present case, the claimed invention is "more akin to a physical process than an abstract idea." *Solutran* at 15 (quoting *Solutran PTAB Decision* at *8) (internal quotations omitted). The method claims approved by the Court in *Solutran* dealt with imaging and processing physical checks. To at least the same extent, the system of present Claim 25 is configured to image and process physical checks: "instruct the user to capture the image of the check", "use a display screen of the user's computing device to assist the user in having a digital camera capture the image of the check", "assist the user as to an orientation for capturing the image of the check", "processing the check

by mobile check deposit in a bank", and "updating a balance of an account based on an amount depicted in the check." The present claims, like those in *Solutran*, are not directed to an abstract idea under the first step of the Mayo/Alice analysis.

Withdrawal of the rejection under § 101 is therefore respectfully requested for at least this reason.

Mayo/Alice Second Step

Assuming, *arguendo*, that the claims could somehow be seen to be directed an abstract idea, the Office action fails to comply with the PTO's recently issued *Berkheimer Memo*[1] with respect to the second step of the Mayo/Alice analysis, and the claims recite elements, such as the "additional elements" discussed below, that amount to significantly more. *See Office action* at 4-5.

Mayo/Alice Second Step: *Berkheimer Memo*

As explained in section (III)(A) of the PTO's recently issued *Berkheimer Memo*[2], any finding that additional element(s) were well-understood, routine, and conventional must be "expressly support[ed] ... in writing with" one or more of the following four items: "1. A citation to an express statement in the specification or to a statement made by an applicant during prosecution..."; "2. A citation to a court decision discussed in MPEP § 2106.05(d)(II) as noting the well-understood, routine, conventional nature of the additional element(s)"; "3. A citation to a publication"; and "4. A statement that the examiner is taking official notice ...". *Berkheimer Memo* at 3-4.

The Office apparently believes the claims recite "additional elements" that are well-understood, routine, and conventional. *Office action* at 4.

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[1] Memorandum - Revising 101 Eligibility Procedure in view of Berkheimer v. HP, Inc. (issued April 19, 2018) (https://www.uspto.gov/sites/default/files/documents/memo-berkheimer-20180419.PDF) (last accessed April 30, 2018).
[2] *Id*.

However, the Office action does not expressly support such belief in writing as required by the *Berkheimer Memo*. The rejection should be withdrawn.

Mayo/Alice Second Step: Additional Elements Not Well-Understood, Routine, and Conventional as of *New Priority Date: October 31, 2006*

The Office action identifies some limitations of Claim 53 as setting forth the asserted abstract idea, and therefore the Office has apparently identified as "additional elements" those limitations not identified by the Office as setting forth the identified abstract idea. *Office action* at 3.

Such "additional elements" of Claim 53 include at least:

- "a user's computing device configured to implement":
  - "instructing, through a user's computing device, the user to capture an image of a check",
  - "using a display screen of the user's computing device to assist the user in having a digital camera capture the image of the check", and
  - "assisting the user as to an orientation for capturing the image of the check"; and
- "updating a balance of an account based on an amount depicted in the check".

The other independent claims, not specifically addressed in the Office action, also include "additional elements" not included in the limitations identified by the Office as setting forth the identified abstract idea with respect to Claim 53.

Such "additional elements" of Claim 25 include at least:

- "a user's computing device configured to execute instructions of a downloadable program ..., the instructions configured to, when executed, cause a processor of the user's computing device to":
  - "instruct the user to capture the image of the check",

- "use a display screen of the user's computing device to assist the user in having a digital camera capture the image of the check", and
- "assist the user as to an orientation for capturing the image of the check"; and

- "a computer system configured to ... update a balance of an account based on an amount depicted in the check".

Such "additional elements" of Claim 49 include at least:

- "system configured to authenticate the user using data representing a biometric measurement";
- "a user's computing device configured to execute instructions of a downloadable program …, the instructions configured to, when executed, cause a processor of the user's computing device to":
  - "authenticate a user based on the biometric measurement obtained corresponding to the user",
  - "instruct the user to capture an image of a check", and
  - "use a display screen of the user's computing device to assist the user in capturing the image of the check"; and
- "a computer system configured to … update a balance of an account based on an amount depicted in the check".

Such "additional elements" of Claim 54 include at least:

- "a user's computing device configured to implement":
  - "authenticating a user based on a biometric measurement obtained corresponding to the user",
  - "instructing the user to capture an image of a check", and
  - "using a display screen of the user's computing device to assist the user in capturing the image of the check"; and

- "updating a balance of an account based on an amount depicted in the check".

Evidence concerning what was not well-understood, routine, and conventional by the time of the newly established priority date in 2006 includes the attached article published by the New York Times on August 9, 2009, entitled "*Bank Will Allow Customers to Deposit Checks by iPhone*." The article describes how applicant (USAA), in 2009, was innovating in the mobile banking industry by making available a downloadable app for a mobile device to permit mobile deposit of paper checks. For example, it opined "[t]he deposit feature, which USAA previewed in an online video, puts the bank in the vanguard of the effort to turn cellphones into portable branches." The 2009 article continues by saying a senior analyst with a research company "predicted that other banks would follow USAA and offer some type of mobile deposit capability."

In other words, even entering the second half of 2009, using a display screen of a user's computing device to assist the user in capturing an image of a check for mobile check deposit with the other "additional elements" was not well-understood, routine, and conventional. All the more so in 2006, the priority date of the present invention.

As such, the "additional elements" result in each claim as a whole amounting to significantly more than the asserted abstract idea. Withdrawal of the rejection under § 101 is respectfully requested for this additional reason.

Mayo/Alice Second Step: Under *Bascom*, an Inventive Concept is found in the Non-Conventional and Non-Generic Arrangement of "additional elements"

Even assuming, *arguendo*, that the "additional elements" do not amount to significantly more than the Office action's asserted abstract idea when considered individually, those elements still amount to significantly more when combined because the combination provides an inventive concept in the non-

conventional and non-generic arrangement of those elements. See *BASCOM Global Internet Services v. AT&T Mobility LLC*, 827 F .3d 1341 (Fed. Cir. 2016).

In *Bascom*, the Court found an inventive concept in the distribution of functionality within a network. *See BASCOM* at 1350 (finding sufficient inventive concept in "the installation of a filtering tool at a specific location, remote from the end users, with customizable filtering features specific to each end user.").

Claim 25

The "additional elements" of Claim 25 provide an inventive concept when combined as claimed at least because the arrangement of "a computer system configured to receive a copy of a captured image of a check, process the check by mobile check deposit" and a "downloadable program" to cause a user's computing device to "use a display screen of the user's computing device to assist the user in having a digital camera capture the image of the check" and "assist the user as to an orientation for capturing the image of the check" was not a conventional, generic arrangement as of 2006, the newly established priority date of the present application.

Further, the recited downloadable program, with its role in causing a user's computing device to use a display screen of the user's computing device to assist the user in having a digital camera capture the image of the check and to assist the user as to an orientation for capturing the image of the check, provides a technical approach to a technical concern. It improves technology related to digital cameras with a downloadable program. It also improves the technology of imaging paper checks.

Claim 49

The "additional elements" of Claim 49 provide an inventive concept when combined as claimed at least because the arrangement of "a computer system configured to receive a copy of a captured image of a check, process the check by mobile check deposit" and a "downloadable program" to cause a processor of a user's computing device to "authenticate a user based on the

biometric measurement obtained corresponding to the user" and to "use a display screen of the user's computing device to assist the user in capturing the image of the check" was not a conventional, generic arrangement as of 2006, the newly established priority date of the present application.

Further, the recited downloadable program, with its role in causing a user's computing device to "authenticate a user based on the biometric measurement obtained corresponding to the user" and to "use a display screen of the user's computing device to assist the user in capturing the image of the check", provides a technical approach to a technical concern. It improves technology related to biometric authentication and imaging paper checks.

Claim 53

The "additional elements" of Claim 53 provide an inventive concept when combined as claimed at least because the arrangement of a computer system receiving a copy of a captured image of a check and processing the check by mobile check deposit, with a user's computing device configured for "using a display screen of the user's computing device to assist the user in having a digital camera capture the image of the check" and "assisting the user as to an orientation for capturing the image of the check" was not a conventional, generic arrangement as of 2006, the newly established priority date of the present application.

Further, the recited use of a user's computing device, configured for using a display screen of the user's computing device to assist the user in having a digital camera capture the image of the check and assisting the user as to an orientation for capturing the image of the check, provides a technical approach to a technical concern. It improves technology related to digital cameras and imaging paper checks.

Claim 54

The "additional elements" of Claim 54 provide an inventive concept when combined as claimed at least because the use of a user's computing device configured to implement "authenticating a user based on a biometric

measurement obtained corresponding to the user" and "using a display screen of the user's computing device to assist the user in capturing the image of the check" was not a conventional, generic use as of 2006, the newly established priority date of the present application.

Further, the recited use of a user's computing device, configured for authenticating a user based on a biometric measurement obtained corresponding to the user and using a display screen of the user's computing device to assist the user in capturing the image of the check provides a technical approach to a technical concern. It improves technology related to biometric authentication and imaging paper checks.

Accordingly, even assuming, *arguendo*, that the "additional elements" do not amount to significantly more than the Office's asserted abstract idea when considered individually, those elements still amount to significantly more when combined because the combinations provide inventive concepts in the arrangement of those elements and improve various technologies. Therefore, withdrawal of the rejection under § 101 is respectfully requested for this additional reason.

Rejection under § 102

Applicant respectfully submits that the art-based rejection is moot in view of the present application's newly-established priority date of October 31, 2006. The outstanding anticipation rejection relies on Viera which does not qualify as prior art in view of the 2006 priority date. Withdrawal of the rejection under § 102 is therefore respectfully requested.

Conclusion

Should the Examiner believe that any further action is necessary to place this application in better form for allowance, the Examiner is invited to contact Applicant's representative at the telephone number listed below.

The absence of arguments addressing specific allegations in the outstanding Office action is not intended to be an admission of the accuracy or appropriateness of such allegations.

The Commissioner is hereby authorized to charge to Deposit Account No. 50-4184 any additional fees under 37 C.F.R. §§ 1.16 and 1.17 that may be required by this paper and to credit any overpayment to that Account. If any extension of time is required in connection with the filing of this paper and has not been separately requested, such extension is hereby requested.

Respectfully submitted,

Date: November 20, 2018

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PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/025,701	Filing Date 07/02/2018	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)		
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	11/20/2018	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 30	Minus	** 30	= 0	X $100 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X $460 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	0

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

SLIE
ADRIENE SELLMAN

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: November 15, 2018 Name: Peter S. Lee (Reg. No. 64,728) Signature: /Peter S. Lee/



SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16/025,701
	Filing Date	July 2, 2018
	First Named Inventor	Charles Lee Oakes
	Art Unit	3697
	Confirmation Number	8845
	Examiner Name	Ojo O. Oyebisi
	Attorney Docket No.	US-0152.09 (14538-649)

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

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	C186	6,411,737	06/25/2002	Wesolkowski et al.
	C187	6,413,305	07/02/2002	Mehta
	C188	2002/0084321	07/04/2002	Martens
	C189	2002/0087467	07/04/2002	Mascavage, III et al.
	C190	6,417,869	07/09/2002	Do
	C191	6,425,017	07/23/2002	Dievendorff

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C192	6,429,952	08/06/2002	Olbricht
	C193	2002/0107809	08/08/2002	Biddle et al.
	C194	2002/0107767	08/08/2002	McClair et al.
	C195	2002/0116329	08/22/2002	Serbetcioglu
	C196	2002/0116335	08/22/2002	Star
	C197	6,439,454	08/27/2002	Masson et al.
	C198	2002/0118891	08/29/2002	Rudd
	C199	2002/0120562	08/29/2002	Opiela
	C200	2002/0120582	08/29/2002	Elston et al.
	C201	6,449,397	09/10/2002	Che-chu
	C202	2002/0129249	09/12/2002	Maillard et al.
	C203	6,450,403	09/17/2002	Martens et al.
	C204	2002/0133409	09/19/2002	Sawano et al.
	C205	2002/0130868	09/19/2002	Smith
	C206	2002/0138522	09/26/2002	Muralidhar
	C207	6,463,220	10/08/2002	Dance et al.
	C208	2002/0147798	10/10/2002	Huang
	C209	6,464,134	10/15/2002	Page
	C210	2002/0150279	10/17/2002	Scott
	C211	2002/0152161	10/17/2002	Aoike
	C212	2002/0152164	10/17/2002	Dutta
	C213	2002/0152165	10/17/2002	Dutta et al.
	C214	2002/0152169	10/17/2002	Dutta et al.
	C215	2002/0152160	10/17/2002	Allen-Rouman et al.
	C216	2002/0150311	10/17/2002	Lynn
	C217	6,470,325	10/22/2002	Leemhuis
	C218	6,469,745	10/22/2002	Yamada et al.
	C219	2002/0154127	10/24/2002	Vienneau et al.
	C220	2002/0159648	10/31/2002	Alderson et al.
	C221	2002/0171820	11/21/2002	Okamura
	C222	2002/0178112	11/28/2002	Goeller
	C223	2002/0188564	12/12/2002	Star
	C224	2002/0186881	12/12/2002	Li
	C225	2002/0195485	12/26/2002	Pomerleau et al.
	C226	2003/0005326	01/02/2003	Flemming
	C227	6,505,178	01/07/2003	Flenley
	C228	2003/0009420	01/09/2003	Jones
	C229	2003/0015583 A1	01/23/2003	Abdi et al.
	C230	2003/0023557	01/30/2003	Moore
	C231	2003/0026609	02/06/2003	Parulski
	C232	2003/0038227	02/27/2003	Sesek
	C233	2003/0050889	03/13/2003	Burke
	C234	2003/0055756	03/20/2003	Allan
	C235	2003/0055776	03/20/2003	Samuelson
	C236	2003/0053692	03/20/2003	Hong et al.
	C237	6,546,119	04/08/2003	Ciolli et al.
	C238	2003/0074315	04/17/2003	Lam
	C239	2003/0075916	04/24/2003	Gorski
	C240	2003/0075596	04/24/2003	Koakutsu
	C241	2003/0081824	05/01/2003	Mennie
	C242	2003/0093369	05/15/2003	Ijichi et al.
	C243	2003/0093367	05/15/2003	Allen-Rouman et al.

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	C244	6,574,609	06/03/2003	Downs
	C245	2003/0105714	06/05/2003	Alarcon-Luther et al.
	C246	2003/0102714	06/05/2003	Rhodes et al.
	C247	2003/0105688	06/05/2003	Brown et al.
	C248	6,578,760	06/17/2003	Otto
	C249	6,587,837	07/01/2003	Spagna
	C250	2003/0126078	07/03/2003	Vihinen
	C251	2003/0126082 A1	07/03/2003	Omura et al.
	C252	2003/0130940	07/10/2003	Hansen et al.
	C253	2003/0132384	07/17/2003	Sugiyama et al.
	C254	2003/0133610	07/17/2003	Nagarajan et al.
	C255	2003/0139999	07/24/2003	Rowe
	C256	6,606,117	08/12/2003	Windle
	C257	6,609,200	08/19/2003	Anderson
	C258	2003/0159046	08/21/2003	Choi et al.
	C259	6,611,598	08/26/2003	Hayosh
	C260	6,614,930	09/02/2003	Agnihotri et al.
	C261	2003/0167225	09/04/2003	Adams
	C262	2003/0191615	10/09/2003	Bailey
	C263	2003/0191869	10/09/2003	Williams
	C264	2003/0200174	10/23/2003	Star
	C265	2003/0202690	10/30/2003	Jones et al.
	C266	6,643,416	11/04/2003	Daniels
	C267	2003/0212904	11/13/2003	Randle et al.
	C268	2003/0217005	11/20/2003	Drummond et al.
	C269	6,654,487	11/25/2003	Downs, Jr.
	C270	2003/0225705	12/04/2003	Park et al.
	C271	6,661,910	12/09/2003	Jones et al.
	C272	2003/0233318	12/18/2003	King et al.
	C273	2003/0233278	12/18/2003	Marshall
	C274	6,669,086	12/30/2003	Abdi et al.
	C275	6,672,452	01/06/2004	Alves
	C276	2004/0010466	01/15/2004	Anderson
	C277	2004/0012496	01/22/2004	De Souza
	C278	2004/0013284	01/22/2004	Yu
	C279	6,682,452	01/27/2004	Quintus
	C280	2004/0024626	02/05/2004	Bruijning
	C281	2004/0024708	02/05/2004	Masuda
	C282	2004/0030741	02/12/2004	Wolton et al.
	C283	6,695,204	02/24/2004	Stinson
	C284	2004/0044606	03/04/2004	Buttridge et al.
	C285	6,711,474	03/23/2004	Treyz et al.
	C286	2004/0057697	03/25/2004	Renzi
	C287	2004/0058705	03/25/2004	Morgan
	C288	2004/0066031	04/08/2004	Wong
	C289	2004/0069841	04/15/2004	Wong
	C290	2004/0071333	04/15/2004	Douglas et al.
	C291	2004/0078299	04/22/2004	Down-Logan
	C292	2004/0076320	04/22/2004	Downs, Jr.
	C293	6,726,097	04/27/2004	Graef
	C294	6,728,397	04/27/2004	Mcneal
	C295	2004/0080795	04/29/2004	Bean et al.

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	C296	2004/0093303	05/13/2004	Picciallo
	C297	2004/0093305	05/13/2004	Kight
	C298	2004/0089711	05/13/2004	Sandru
	C299	6,738,496	05/18/2004	Van Hall
	C300	6,742,128	05/25/2004	Joiner
	C301	2004/0103296	05/27/2004	Harp
	C302	2004/0103057	05/27/2004	Melbert et al.
	C303	6,745,186	06/01/2004	Testa et al.
	C304	2004/0109596	06/10/2004	Doran
	C305	2004/0110975	06/10/2004	Osinski et al.
	C306	2004/0111371	06/10/2004	Friedman
	C307	2004/0117302	06/17/2004	Weichert
	C308	6,754,640	06/22/2004	Bozeman
	C309	2004/0122754	06/24/2004	Stevens
	C310	6,755,340	06/29/2004	Voss et al.
	C311	2004/0133511	07/08/2004	Smith et al.
	C312	6,763,226	07/13/2004	McZeal
	C313	2004/0138974	07/15/2004	Shimamura
	C314	2004/0148235	07/29/2004	Craig et al.
	C315	2004/0158549	08/12/2004	Matena
	C316	6,781,962	08/24/2004	Williams
	C317	2004/0165096	08/26/2004	Maeno
	C318	2004/0170259	09/02/2004	Park
	C319	6,786,398	09/07/2004	Stinson et al.
	C320	6,789,054	09/07/2004	Makhlouf
	C321	2004/0184766	09/23/2004	Kim et al.
	C322	6,796,491	09/28/2004	Nakajima
	C323	6,796,489	09/28/2004	Slater et al.
	C324	6,806,903	10/19/2004	Okisu et al.
	C325	2004/0210515	10/21/2004	Hughes
	C326	2004/0210523	10/21/2004	Gains et al.
	C327	6,813,733	11/02/2004	Li
	C328	2004/0225604	11/11/2004	Foss, Jr. et al.
	C329	2004/0228277	11/18/2004	Williams
	C330	2004/0236647	11/25/2004	Acharya
	C331	2004/0236688	11/25/2004	Bozeman
	C332	2004/0240722	12/02/2004	Tsuji et al.
	C333	6,829,704	12/07/2004	Zhang
	C334	2004/0245324	12/09/2004	Chen
	C335	2004/0248600	12/09/2004	Kim
	C336	2004/0247199	12/09/2004	Murai et al.
	C337	2004/0252679	12/16/2004	Williams
	C338	2004/0260636	12/23/2004	Marceau
	C339	2004/0267666	12/30/2004	Minami
	C340	2005/0001421	01/06/2005	Luth et al.
	C341	2005/0010108	01/13/2005	Rahn et al.
	C342	6,844,885	01/18/2005	Anderson
	C343	2005/0015332	01/20/2005	Chen
	C344	2005/0021466	01/27/2005	Buchanan et al.
	C345	2005/0038746	02/07/2005	Latimer et al.
	C346	2005/0033645	02/10/2005	Duphily
	C347	2005/0033685	02/10/2005	Reyes

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	C348	2005/0033695	02/10/2005	Minowa
	C349	2005/0030388	02/10/2005	Stavely et al.
	C350	6,856,965	02/15/2005	Stinson
	C351	2005/0035193	02/17/2005	Gustin et al.
	C352	2005/0038754	02/17/2005	Geist
	C353	2005/0044042	02/24/2005	Mendiola
	C354	2005/0044577	02/24/2005	Jerding
	C355	2005/0049950	03/03/2005	Johnson
	C356	6,863,214	03/08/2005	Garner et al.
	C357	6,870,947	03/22/2005	Kelland
	C358	2005/0071283	03/31/2005	Randle et al.
	C359	2005/0075974	04/07/2005	Turgeon
	C360	2005/0075969	04/07/2005	Nielson et al.
	C361	2005/0078336	04/14/2005	Ferlitsch
	C362	2005/0080725	04/14/2005	Pick
	C363	6,883,140	04/19/2005	Acker
	C364	2005/0086140	04/21/2005	Ireland
	C365	2005/0086168	04/21/2005	Alvarez
	C366	2005/0082364	04/21/2005	Alvarez et al.
	C367	2005/0091161	04/28/2005	Gustin
	C368	2005/0089209	04/28/2005	Stefanuk
	C369	2005/0097046	05/05/2005	Singfield
	C370	2005/0096992	05/05/2005	Geisel
	C371	2005/0097019	05/05/2005	Jacobs
	C372	2005/0097050	05/05/2005	Orcutt
	C373	2005/0108164	05/19/2005	Salafia
	C374	2005/0108168	05/19/2005	Halpin
	C375	6,898,314	05/24/2005	Kung et al.
	C376	2005/0115110	06/02/2005	Dinkins
	C377	6,902,105	06/07/2005	Koakutsu
	C378	2005/0125360	06/09/2005	Tidwell et al.
	C379	2005/0125338	06/09/2005	Tidwell et al.
	C380	2005/0131820	06/16/2005	Rodriguez
	C381	2005/0127160	06/16/2005	Fujikawa
	C382	6,910,023	06/21/2005	Schibi
	C383	2005/0143136	06/30/2005	Lev et al.
	C384	6,913,188	07/05/2005	Wong
	C385	2005/0149436	07/07/2005	Elterich
	C386	2005/0168566	08/04/2005	Tada
	C387	2005/0171899	08/04/2005	Dunn
	C388	2005/0171907	08/04/2005	Lewis
	C389	2005/0177499	08/11/2005	Thomas
	C390	2005/0177518	08/11/2005	Brown
	C391	2005/0177494	08/11/2005	Kelly et al.
	C392	2005/0177510 A1	08/11/2005	Hilt et al.
	C393	6,931,591	08/16/2005	Brown
	C394	2005/0182710	08/18/2005	Anderson
	C395	6,934,719	08/23/2005	Nally
	C396	2005/0188306	08/25/2005	Mackenzie
	C397	2005/0203430	09/15/2005	Williams et al.
	C398	2005/0209961	09/22/2005	Michelsen
	C399	2005/0205661	09/22/2005	Taylor

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	C400	2005/0213805	09/29/2005	Blake et al.
	C401	2005/0220324	10/06/2005	Klein et al.
	C402	2005/0218209	10/06/2005	Heilper et al.
	C403	2005/0228733	10/13/2005	Bent et al.
	C404	6,957,770	10/25/2005	Robinson
	C405	6,961,689	11/01/2005	Greenberg
	C406	2005/0244035	11/03/2005	Klein et al.
	C407	2005/0252955	11/17/2005	Sugai
	C408	6,970,843	11/29/2005	Forte
	C409	2005/0267843	12/01/2005	Acharya et al.
	C410	2005/0268107	12/01/2005	Harris et al.
	C411	6,973,589	12/05/2005	Wright
	C412	2005/0269412	12/08/2005	Chiu
	C413	2005/0273368	12/08/2005	Hutten et al.
	C414	2005/0278250	12/15/2005	Zair
	C415	2005/0281471	12/22/2005	LeConte
	C416	2005/0281474	12/22/2005	Huang
	C417	2005/0281448	12/22/2005	Lugg
	C418	2005/0289030	12/29/2005	Smith
	C419	2005/0289182	12/29/2005	Pandian et al.
	C420	2006/0004660	01/05/2006	Pranger
	C421	2006/0002426	01/05/2006	Madour
	C422	6,983,886	01/10/2006	Natsukari et al.
	C423	2006/0017752	01/26/2006	Kurzweil et al.
	C424	6,993,507	01/31/2006	Meyer
	C425	2006/0025697	02/02/2006	Kurzweil
	C426	6,996,263	02/07/2006	Jones et al.
	C427	6,999,943	02/14/2006	Johnson
	C428	7,003,040	02/21/2006	Yi
	C429	2006/0039629	02/23/2006	Li et al.
	C430	2006/0039628	02/23/2006	Li et al.
	C431	2006/0041506	02/23/2006	Mason et al.
	C432	7,004,382	02/28/2006	Sandru
	C433	2006/0045321	03/02/2006	Yu
	C434	2006/0047593	03/02/2006	Naratil
	C435	7,010,507	03/07/2006	Anderson
	C436	7,010,155	03/07/2006	Koakutsu et al.
	C437	2006/0053056	03/09/2006	Alspach-Goss
	C438	2006/0049242	03/09/2006	Mejias et al.
	C439	2006/0059085	03/16/2006	Tucker
	C440	7,016,704	03/21/2006	Pallakoff
	C441	2006/0064368	03/23/2006	Forte
	C442	2006/0080245	04/13/2006	Bahl
	C443	2006/0085357	04/20/2006	Pizarro
	C444	2006/0085516	04/20/2006	Farr et al.
	C445	7,039,048	05/02/2006	Monta
	C446	2006/0102704	05/18/2006	Reynders
	C447	2006/0106691	05/18/2006	Sheaffer
	C448	2006/0106717	05/18/2006	Randle
	C449	2006/0110063	05/25/2006	Weiss
	C450	2006/0112013	05/25/2006	Maloney
	C451	2006/0108168	05/25/2006	Fischer et al.

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	C452	2006/0115110	06/01/2006	Rodriguez
	C453	2006/0115141	06/01/2006	Koakutsu et al.
	C454	7,058,036	06/06/2006	Yu
	C455	2006/0118613	06/08/2006	McMann
	C456	7,062,768	06/13/2006	Kubo
	C457	7,062,456	06/13/2006	Riehl et al.
	C458	7,062,099	06/13/2006	Li et al.
	C459	2006/0124730	06/15/2006	Maloney
	C460	7,072,862	07/04/2006	Wilson
	C461	2006/0144924	07/06/2006	Stover
	C462	2006/0144950	07/06/2006	Johnson
	C463	2006/0144937	07/06/2006	Heilper et al.
	C464	7,076,458	07/11/2006	Lawlor et al.
	C465	2006/0161501	07/20/2006	Waserstein
	C466	2006/0159367	07/20/2006	Zeineh et al.
	C467	2006/0161499	07/20/2006	Rich et al.
	C468	2006/0164682	07/27/2006	Lev
	C469	2006/0167818	07/27/2006	Wentker et al.
	C470	2006/0166178	07/27/2006	Driedijk
	C471	7,086,003	08/01/2006	Demsky
	C472	7,092,561	08/15/2006	Downs, Jr.
	C473	2006/0182331	08/17/2006	Gilson et al.
	C474	2006/0182332 A1	08/17/2006	Weber
	C475	2006/0181614	08/17/2006	Yen et al.
	C476	2006/0186194	08/24/2006	Richardson et al.
	C477	7,104,443	09/12/2006	Paul et al.
	C478	2006/0206506	09/14/2006	Fitzpatrick
	C479	2006/0210138	09/21/2006	Hilton et al.
	C480	2006/0208059	09/21/2006	Cable et al.
	C481	2006/0212391	09/21/2006	Norman et al.
	C482	7,113,925	09/26/2006	Waserstein
	C483	2006/0214940	09/28/2006	Kinoshita
	C484	2006/0215204	09/28/2006	Miyamoto et al.
	C485	2006/0215230	09/28/2006	Borrey et al.
	C486	7,114,649	10/03/2006	Nelson
	C487	2006/0222260	10/05/2006	Sambongi et al.
	C488	2006/0229976	10/12/2006	Jung
	C489	2006/0229986	10/12/2006	Corder
	C490	2006/0242062	10/26/2006	Peterson
	C491	2006/0238503	10/26/2006	Smith
	C492	2006/0242063	10/26/2006	Peterson
	C493	7,131,571	11/07/2006	Swift et al.
	C494	2006/0249567	11/09/2006	Byrne
	C495	7,139,594	11/21/2006	Nagatomo
	C496	7,140,539	11/28/2006	Crews
	C497	2006/0274164	12/07/2006	Kimura et al.
	C498	2006/0279628	12/14/2006	Fleming
	C499	2006/0282383	12/14/2006	Doran
	C500	2006/0291744	12/28/2006	Ikeda et al.
	C501	7,163,347	01/16/2007	Lugg
	C502	2007/0013721 A1	01/18/2007	Vau
	C503	2007/0016796	01/18/2007	Singhal

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	C504	2007/0019243	01/25/2007	Sato
	C505	2007/0022053	01/25/2007	Waserstein
	C506	2007/0027802	02/01/2007	VanDeburg et al.
	C507	2007/0031022	02/08/2007	Frew
	C508	2007/0030357	02/08/2007	Levien et al.
	C509	2007/0038561	02/15/2007	Vancini et al.
	C510	7,181,430	02/20/2007	Buchanan et al.
	C511	7,178,721	02/20/2007	Maloney
	C512	2007/0041629	02/22/2007	Prakash et al.
	C513	7,184,980	02/27/2007	Allen-Rouman et al.
	C514	2007/0050292	03/01/2007	Yarbrough
	C515	7,185,805	03/06/2007	McShirley
	C516	2007/0053574	03/08/2007	Verma et al.
	C517	2007/0058851	03/15/2007	Quine
	C518	2007/0063016	03/22/2007	Myatt
	C519	2007/0064991	03/22/2007	Douglas et al.
	C520	2007/0065143	03/22/2007	Didow et al.
	C521	7,197,173	03/27/2007	Jones et al.
	C522	7,200,255	04/03/2007	Jones
	C523	2007/0075772	04/05/2007	Kokubo
	C524	2007/0077921	04/05/2007	Hayashi
	C525	2007/0076940	04/05/2007	Goodall et al.
	C526	2007/0080207	04/12/2007	Williams
	C527	2007/0082700	04/12/2007	Landschaft
	C528	7,204,412	04/17/2007	Foss, Jr.
	C529	2007/0084911	04/19/2007	Crowell
	C530	2007/0086642	04/19/2007	Foth
	C531	2007/0086643	04/19/2007	Spier
	C532	2007/0094088	04/26/2007	Mastie
	C533	2007/0094140	04/26/2007	Riney et al.
	C534	2007/0100748	05/03/2007	Dheer
	C535	7,216,106	05/08/2007	Buchanan
	C536	7,219,082	05/15/2007	Forte
	C537	2007/0110277	05/17/2007	Hayduchok et al.
	C538	7,219,831	05/22/2007	Murata
	C539	2007/0118472	05/24/2007	Allen-Rouman et al.
	C540	2007/0122024	05/31/2007	Haas et al.
	C541	2007/0124241	05/31/2007	Newton
	C542	2007/0129955	06/07/2007	Dalmia
	C543	2007/0127805	06/07/2007	Foth et al.
	C544	2007/0136198	06/14/2007	Foth et al.
	C545	2007/0131758	06/14/2007	Mejias et al.
	C546	2007/0140594	06/21/2007	Franklin
	C547	2007/0143208	06/21/2007	Varga
	C548	2007/0140545	06/21/2007	Rossignoli
	C549	2007/0150337	06/28/2007	Hawkins et al.
	C550	2007/0156438	07/05/2007	Popadic et al.
	C551	2007/0154098	07/05/2007	Geva et al.
	C552	2007/0168265	07/19/2007	Rosenberger
	C553	2007/0168283	07/19/2007	Alvarez et al.
	C554	7,249,076	07/24/2007	Pendleton
	C555	2007/0171288	07/26/2007	Inoue

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C556	2007/0172107	07/26/2007	Jones et al.
	C557	2007/0172148	07/26/2007	Hawley
	C558	2007/0179883	08/02/2007	Questembert
	C559	7,252,224	08/07/2007	Verma
	C560	2007/0183000	08/09/2007	Eisen et al.
	C561	2007/0183741	08/09/2007	Lerman et al.
	C562	7,257,246	08/14/2007	Brodie et al.
	C563	2007/0194102	08/23/2007	Cohen
	C564	2007/0198432	08/23/2007	Pitroda et al.
	C565	2007/0203708	08/30/2007	Polycn et al.
	C566	7,266,230	09/04/2007	Doran
	C567	2007/0206877	09/06/2007	Wu et al.
	C568	2007/0208816	09/06/2007	Baldwin et al.
	C569	2007/0214086	09/13/2007	Homoki
	C570	2007/0217669	09/20/2007	Swift et al.
	C571	7,277,191	10/02/2007	Metcalfe et al.
	C572	2007/0233585	10/04/2007	Ben Simon et al.
	C573	2007/0233525	10/04/2007	Boyle
	C574	2007/0235518	10/11/2007	Mueller et al.
	C575	2007/0235520	10/11/2007	Smith et al.
	C576	2007/0241179	10/18/2007	Davis
	C577	2007/0244782	10/18/2007	Chimento
	C578	2007/0246525	10/25/2007	Smith et al.
	C579	7,290,034	10/30/2007	Budd
	C580	2007/0255652	11/01/2007	Tumminaro
	C581	2007/0251992	11/01/2007	Sharma et al.
	C582	2007/0255653	11/01/2007	Tumminaro
	C583	2007/0255662	11/01/2007	Tumminaro
	C584	2007/0258634	11/08/2007	Simonoff
	C585	2007/0268540	11/22/2007	Gaspardo et al.
	C586	2007/0271182	11/22/2007	Prakash et al.
	C587	7,299,970	11/27/2007	Ching
	C588	7,299,979	11/27/2007	Phillips
	C589	2007/0278286	12/06/2007	Crowell et al.
	C590	2007/0288380	12/13/2007	Starrs
	C591	2007/0288382	12/13/2007	Narayanan et al.
	C592	7,313,543	12/25/2007	Crane
	C593	2007/0295803	12/27/2007	Levine et al.
	C594	2007/0299928	12/27/2007	Kohli et al.
	C595	7,314,163	01/01/2008	Crews et al.
	C596	2008/0002911	01/03/2008	Eisen
	C597	2008/0010204	01/10/2008	Rackley III et al.
	C598	7,321,874	01/22/2008	Dilip
	C599	7,321,875	01/22/2008	Dilip
	C600	2008/0021802	01/24/2008	Pendelton
	C601	7,325,725	02/05/2008	Foss, Jr.
	C602	7,328,190	02/05/2008	Smith et al.
	C603	7,330,604	02/12/2008	Wu et al.
	C604	2008/0040280	02/14/2008	Davis et al.
	C605	7,331,523	02/19/2008	Meier et al.
	C606	7,336,813	02/26/2008	Prakash et al.
	C607	2008/0052182	02/28/2008	Marshall

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C608	2008/0059376	03/06/2008	Davis
	C609	7,343,320	03/11/2008	Treyz
	C610	2008/0063253	03/13/2008	Wood
	C611	2008/0071721	03/20/2008	Wang
	C612	2008/0068674	03/20/2008	McIntyre
	C613	7,349,566	03/25/2008	Jones et al.
	C614	2008/0073423	03/27/2008	Heit et al.
	C615	2008/0080760	04/03/2008	Ronca
	C616	7,356,505	04/08/2008	March
	C617	2008/0086421	04/10/2008	Gilder
	C618	2008/0086420	04/10/2008	Gilder et al.
	C619	2008/0086770	04/10/2008	Kulkarni et al.
	C620	2008/0091599	04/17/2008	Foss, Jr.
	C621	2008/0097899	04/24/2008	Jackson et al.
	C622	2008/0103790	05/01/2008	Abernethy
	C623	2008/0103967	05/01/2008	Ackert et al.
	C624	2008/0114739	05/15/2008	Hayes
	C625	2008/0113674	05/15/2008	Baig
	C626	2008/0115066	05/15/2008	Pavley et al.
	C627	2008/0117991	05/22/2008	Peddireddy
	C628	2008/0119178	05/22/2008	Peddireddy
	C629	2008/0116257 A1	05/22/2008	Fickling
	C630	7,377,425	05/27/2008	Ma
	C631	7,379,978	05/27/2008	Anderson
	C632	7,383,227	06/03/2008	Weinflash et al.
	C633	2008/0133411	06/05/2008	Jones et al.
	C634	7,385,631	06/10/2008	Maeno
	C635	7,386,511	06/10/2008	Buchanan
	C636	2008/0140579	06/12/2008	Sanjiv
	C637	2008/0147549	06/19/2008	Ruthbun
	C638	7,391,897	06/24/2008	Jones et al.
	C639	7,391,934	06/24/2008	Goodall et al.
	C640	2008/0155672	06/26/2008	Sharma
	C641	7,392,935	07/01/2008	Byrne
	C642	2008/0156438	07/03/2008	Stumphauzer et al.
	C643	2008/0162371	07/03/2008	Rampell et al.
	C644	2008/0162350	07/03/2008	Allen-Rouman et al.
	C645	2008/0162319 A1	07/03/2008	Breeden et al.
	C646	7,401,048	07/15/2008	Rosedale
	C647	7,403,917	07/22/2008	Larsen
	C648	2008/0177659	07/24/2008	Lacey et al.
	C649	7,406,198	07/29/2008	Aoki et al.
	C650	2008/0180750	07/31/2008	Feldman
	C651	2008/0208727	08/28/2008	McLaughlin et al.
	C652	2008/0205751	08/28/2008	Mischler
	C653	7,421,107	09/02/2008	Lugg
	C654	7,421,410	09/02/2008	Schechtman et al.
	C655	2008/0214180	09/04/2008	Cunningham et al.
	C656	2008/0219543	09/11/2008	Csulits
	C657	7,427,016	09/23/2008	Chimento
	C658	7,433,098	10/07/2008	Klein et al.
	C659	2008/0247629	10/09/2008	Gilder

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C660	2008/0249931	10/09/2008	Gilder et al.
	C661	2008/0249951	10/09/2008	Gilder et al.
	C662	2008/0245869	10/09/2008	Berkun et al.
	C663	2008/0247655	10/09/2008	Yano
	C664	7,437,327	10/14/2008	Lam
	C665	7,440,924	10/21/2008	Buchanan
	C666	2008/0262953	10/23/2008	Anderson
	C667	2008/0262950	10/23/2008	Christensen et al.
	C668	7,447,347	11/04/2008	Weber
	C669	2008/0275821	11/06/2008	Bishop et al.
	C670	7,455,220	11/25/2008	Phillips
	C671	7,455,221	11/25/2008	Sheaffer
	C672	7,460,108	12/02/2008	Tamura
	C673	2008/0301441	12/04/2008	Calman et al.
	C674	7,461,779	12/09/2008	Ramachandran
	C675	7,461,780	12/09/2008	Potts
	C676	2008/0304769	12/11/2008	Hollander et al.
	C677	7,464,859	12/16/2008	Hawkins
	C678	2008/0316542	12/25/2008	Mindrum et al.
	C679	7,471,818	12/30/2008	Price
	C680	7,475,040	01/06/2009	Buchanan
	C681	7,477,923	01/13/2009	Wallmark
	C682	7,480,382	01/20/2009	Dunbar
	C683	7,480,422	01/20/2009	Ackley et al.
	C684	2009/0024520	01/22/2009	Drory et al.
	C685	7,489,953	02/10/2009	Griffin
	C686	7,490,242	02/10/2009	Torres
	C687	2009/0046938	02/19/2009	Yoder
	C688	7,497,429	03/03/2009	Reynders
	C689	2009/0060396	03/05/2009	Blessan et al.
	C690	2009/0066987 A1	03/12/2009	Inokuchi
	C691	7,506,261	03/17/2009	Statou
	C692	7,503,486	03/17/2009	Ahles
	C693	7,505,759	03/17/2009	Rahman
	C694	7,509,287	03/24/2009	Nutahara
	C695	7,512,564	03/31/2009	Geer
	C696	2009/0094148	04/09/2009	Gilder et al.
	C697	7,519,560	04/14/2009	Lam
	C698	7,520,420	04/21/2009	Phillips
	C699	7,520,422	04/21/2009	Robinson et al.
	C700	2009/0108080	04/30/2009	Meyer
	C701	2009/0110281	04/30/2009	Hirabayashi
	C702	7,536,440	05/19/2009	Budd
	C703	7,536,354	05/19/2009	deGroeve et al.
	C704	7,539,646	05/26/2009	Gilder
	C705	7,542,598	06/02/2009	Jones
	C706	7,540,408	06/02/2009	Levine
	C707	2009/0141962	06/04/2009	Borgia et al.
	C708	7,545,529	06/09/2009	Borrey et al.
	C709	7,548,641	06/16/2009	Gilson et al.
	C710	2009/0164370	06/25/2009	Sorbe et al.
	C711	2009/0164350	06/25/2009	Sorbe et al.

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C712	2009/0171819	07/02/2009	Emde et al.
	C713	2009/0171825	07/02/2009	Roman
	C714	2009/0166406	07/02/2009	Pigg et al.
	C715	2009/0167870	07/02/2009	Caleca et al.
	C716	2009/0173781	07/09/2009	Ramachadran
	C717	2009/0185738	07/23/2009	Nepomniachtchi
	C718	2009/0185737	07/23/2009	Nepomniachtchi
	C719	2009/0185241	07/23/2009	Nepomniachtchi
	C720	7,566,002	07/28/2009	Love et al.
	C721	2009/0190823	07/30/2009	Walters
	C722	2009/0192938	07/30/2009	Amos
	C723	7,571,848	08/11/2009	Cohen
	C724	2009/0212929	08/27/2009	Drory et al.
	C725	7,587,363	09/08/2009	Cataline
	C726	7,587,066	09/08/2009	Cordery et al.
	C727	7,590,275	09/15/2009	Clarke et al.
	C728	2009/0236413	09/24/2009	Mueller et al.
	C729	2009/0240620	09/24/2009	Kendrick et al.
	C730	7,599,543	10/06/2009	Jones
	C731	7,599,888	10/06/2009	Manfre
	C732	2009/0252437	10/08/2009	Li
	C733	2009/0254447	10/08/2009	Blades
	C734	7,602,956	10/13/2009	Jones
	C735	7,606,762	10/20/2009	Heit
	C736	2009/0263019	10/22/2009	Tzadok et al.
	C737	7,609,873	10/27/2009	Foth et al.
	C738	7,609,889	10/27/2009	Guo et al.
	C739	2009/0271287 A1	10/29/2009	Halpern
	C740	2009/0281904	11/12/2009	Pharris
	C741	7,620,231	11/17/2009	Jones
	C742	7,620,604	11/17/2009	Bueche, Jr.
	C743	7,619,721	11/17/2009	Jones
	C744	2009/0284637	11/19/2009	Parulski et al.
	C745	2009/0290751	11/26/2009	Ferman et al.
	C746	2009/0292628	11/26/2009	Dryer et al.
	C747	7,630,518	12/08/2009	Frew et al.
	C748	2009/0313167	12/17/2009	Dujari et al.
	C749	2009/0319425 A1	12/24/2009	Tumminaro et al.
	C750	2009/0327129	12/31/2009	Collas et al.
	C751	7,644,043	01/05/2010	Minowa
	C752	7,644,037	01/05/2010	Ostrovsky
	C753	7,647,275	01/12/2010	Jones
	C754	2010/0007899	01/14/2010	Lay
	C755	2010/0027679	02/04/2010	Sunahara et al.
	C756	2010/0030687	02/04/2010	Panthaki et al.
	C757	7,668,363	02/23/2010	Price
	C758	2010/0047000	02/25/2010	Park et al.
	C759	7,672,940	03/02/2010	Viola
	C760	7,672,022	03/02/2010	Fan
	C761	2010/0057578	03/04/2010	Blair et al.
	C762	7,676,409	03/09/2010	Ahmad
	C763	2010/0061446	03/11/2010	Hands et al.

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C764	7,680,735	03/16/2010	Loy
	C765	7,689,482	03/30/2010	Lam
	C766	2010/0082470	04/01/2010	Walach
	C767	2010/0082468 A1	04/01/2010	Low et al.
	C768	2010/0078471	04/01/2010	Lin et al.
	C769	7,698,222	04/13/2010	Bueche, Jr.
	C770	7,697,776	04/13/2010	Wu et al.
	C771	7,702,588	04/20/2010	Gilder et al.
	C772	7,702,588	04/20/2010	Gilder et al.
	C773	7,720,735	05/18/2010	Anderson et al.
	C774	7,734,545	06/08/2010	Fogliano
	C775	7,743,979	06/29/2010	Fredman
	C776	2010/0165015	07/01/2010	Barkley et al.
	C777	7,753,268	07/13/2010	Robinson et al.
	C778	7,761,358	07/20/2010	Craig et al.
	C779	7,766,244	08/03/2010	Field
	C780	7,769,650	08/03/2010	Bleunven
	C781	2010/0198733	08/05/2010	Gantman et al.
	C782	7,772,685	08/10/2010	Oakes, III et al.
	C783	7,778,457	08/17/2010	Nepomniachtchi et al.
	C784	7,792,752	09/07/2010	Kay
	C785	7,792,753	09/07/2010	Slater et al.
	C786	2010/0226559	09/09/2010	Najari et al.
	C787	2010/0225773	09/09/2010	Lee
	C788	7,810,714	10/12/2010	Murata
	C789	7,812,986	10/12/2010	Graham et al.
	C790	2010/0262522	10/14/2010	Anderson et al.
	C791	2010/0260408	10/14/2010	Prakash et al.
	C792	7,818,245	10/19/2010	Prakash et al.
	C793	2010/0274693 A1	10/28/2010	Bause et al.
	C794	7,831,458	11/09/2010	Neumann
	C795	2010/0312705	12/09/2010	Caruso et al.
	C796	7,856,402	12/21/2010	Kay
	C797	7,865,384	01/04/2011	Anderson et al.
	C798	7,873,200	01/18/2011	Oakes, III et al.
	C799	2011/0016084	01/20/2011	Mundy et al.
	C800	7,876,949	01/25/2011	Oakes, III et al.
	C801	7,885,880	02/08/2011	Prasad et al.
	C802	7,885,451	02/08/2011	Walls et al.
	C803	7,894,094	02/22/2011	Nacman et al.
	C804	7,895,054	02/22/2011	Slen et al.
	C805	7,896,232	03/01/2011	Prasad et al.
	C806	7,900,822	03/08/2011	Prasad et al.
	C807	7,904,386	03/08/2011	Kalra et al.
	C808	7,903,863	03/08/2011	Jones et al.
	C809	7,912,785	03/22/2011	Kay
	C810	2011/0069180 A1	03/24/2011	Nijemcevic et al.
	C811	2011/0106675	05/05/2011	Perlman
	C812	2011/0112967	05/12/2011	Anderson et al.
	C813	7,949,587	05/24/2011	Morris et al.
	C814	7,950,698	05/31/2011	Popadic et al.
	C815	7,953,441	05/31/2011	Lors

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C816	7,958,053	06/07/2011	Stone
	C817	7,962,411	06/14/2011	Prasad et al.
	C818	7,970,677	06/28/2011	Oakes, III et al.
	C819	7,974,899	07/05/2011	Prasad et al.
	C820	7,978,900	07/12/2011	Nepomniachtchi et al.
	C821	7,979,326	07/12/2011	Kurushima
	C822	2011/0170740	07/14/2011	Coleman
	C823	2011/0191161	08/04/2011	Dai
	C824	7,996,316	08/09/2011	Smith et al.
	C825	7,996,314	08/09/2011	Smith et al.
	C826	7,996,315	08/09/2011	Smith et al.
	C827	8,001,051	08/16/2011	Smith et al.
	C828	2011/0251956	10/13/2011	Cantley et al.
	C829	8,046,301	10/25/2011	Smith et al.
	C830	8,045,784	10/25/2011	Price et al.
	C831	8,060,442	11/15/2011	Hecht et al.
	C832	2011/0280450 A1	11/17/2011	Nepomniachtchi et al.
	C833	8,065,307	11/22/2011	Haslam et al.
	C834	2011/0285874 A1	11/24/2011	Showering et al.
	C835	2011/0310442	12/22/2011	Popadic et al.
	C836	8,091,778	01/10/2012	Block et al.
	C837	8,116,533	02/14/2012	Kiplinger et al.
	C838	2012/0047070	02/23/2012	Pharris
	C839	2012/0062732	03/15/2012	Marman et al.
	C840	2012/0089514 A1	04/12/2012	Kraemling et al.
	C841	8,159,520	04/17/2012	Dhanoa
	C842	8,204,293	06/19/2012	Csulits et al.
	C843	8,203,640	06/19/2012	Kim et al.
	C844	2012/0185388	07/19/2012	Pranger
	C845	8,235,284	08/07/2012	Prasad et al.
	C846	8,266,076	09/11/2012	Lopez et al.
	C847	2012/0229872	09/13/2012	Dolev
	C848	8,271,385	09/18/2012	Emerson et al.
	C849	8,290,237	10/16/2012	Burks et al.
	C850	8,320,657	11/27/2012	Burks et al.
	C851	8,332,329	12/11/2012	Thiele
	C852	8,351,677	01/08/2013	Oakes, III et al.
	C853	8,358,826	01/22/2013	Medina et al.
	C854	2013/0021651 A9	01/24/2013	Popadic et al.
	C855	8,364,563	01/29/2013	Choiniere, Sr.
	C856	8,392,332	03/05/2013	Oakes, III et al.
	C857	8,401,962	03/19/2013	Bent et al.
	C858	8,422,758	04/16/2013	Bueche, Jr.
	C859	8,433,647	04/30/2013	Yarbrough
	C860	2013/0223721	08/29/2013	Nepomniachtchi et al.
	C861	8,548,267	10/01/2013	Yacoub et al.
	C862	8,559,766	10/15/2013	Tilt et al.
	C863	8,582,862	11/12/2013	Nepomniachtchi et al.
	C864	8,660,952 B1	02/25/2014	Viera
	C865	8,708,227	04/29/2014	Oakes, III et al.
	C866	8,732,081	05/20/2014	Oakes, III et al.
	C867	8,799,147	08/05/2014	Walls et al.

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EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	C868	2014/0236820 A1	08/21/2014	Carlton
	C869	2015/0039528 A1	02/05/2015	Minogue
	C870	8,977,571	03/10/2015	Bueche, Jr. et al.
	C871	9,286,514	03/15/2016	Newman
	C872	9,424,569	08/23/2016	Sherman et al.
	C873	5,761,686	06/02/1998	Bloomberg
	C874	2001/0016084	08/23/2001	Pollard et al.
	C875	6,310,647	10/30/2001	Parulski et al.
	C876	2002/0025085 A1	02/28/2002	Gustafson et al.
	C877	2002/0120846	08/29/2002	Stewart et al.
	C878	2002/0152169	10/17/2002	Dutta et al.
	C879	2003/0072568	04/17/2003	Lin et al.
	C880	2003/0086615	05/08/2003	Dance et al.
	C881	2004/0075754	04/22/2004	Nakajima et al.
	C882	6,807,294	10/19/2004	Yamazaki
	C883	2005/0077351	04/14/2005	De Jong
	C884	6,947,610	09/20/2005	Sun
	C885	2005/0216410	09/29/2005	Davis et al.
	C886	2006/0015733	01/19/2006	O'Malley et al.
	C887	2006/0045374	03/02/2006	Kim et al.
	C888	7,051,001	05/23/2006	Slater
	C889	2007/0002157	01/04/2007	Shintani et al.
	C890	7,245,765	07/17/2007	Myers et al.
	C891	7,440,924	10/21/2008	Buchanan et al.
	C892	7,680,732	03/16/2010	Davies et al.
	C893	7,714,778	05/11/2010	Dupray
	C894	7,996,312	08/09/2011	Beck et al.
	C895	8,351,678	01/08/2013	Medina, III
	C896	8,391,599	03/05/2013	Medina, III
	C897	8.433,127	04/30/2013	Harpel et al.
	C898	8,452,689	05/28/2013	Medina, III
	C899	8,464,933	06/18/2013	Prasad et al.
	C900	8,538,124	09/17/2013	Harpel et al.
	C901	8,542,921	09/24/2013	Medina
	C902	8,611,635	12/17/2013	Medina, III
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	C1060	White, J.M. et al., "Image Thresholding for Optical Character Recognition and Other Applications Requiring Character Image Extraction", IBM J. RES. Development, July 1983, vol. 27, no. 4 (12 pgs)
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	C1062	Wikipedia ®, "Remote Deposit," http://en.wikipedia.org/wiki/Remote_deposit, 2007 (3 pgs).
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	C1066	Zandifar, A., "A Video-Based Framework for the Analysis of Presentations/Posters," International Journal on Document Analysis and Recognition, February 2, 2005, 10 pages.
	C1067	Zhang, C.Y., "Robust Estimation and Image Combining" Astronomical Data Analysis Software and Systems IV, ASP Conference Series, 1995 (5 pgs)
	C1068	Zions Bancorporation, "Moneytech, the technology of money in our world: Remote Deposit," http://www.bankjunior.com/pground/moneytech/remote_deposit.jsp, 2007 (2 pgs).
	C1069	Application as filed on April 3, 2008 for U.S. Appln No. 12/062,143 (27 pgs).
	C1070	Application as filed on August 19, 2010 for U.S. Appln No. 12/859,741 (235 pgs).
	C1071	Application as filed on August 21, 2008 for U.S. Appln No. 12/195,723 (38 pgs).
	C1072	Application as filed on August 21, 2009 for U.S. Appln No. 12/545,127 (45 pgs).
	C1073	Application as filed on August 28, 2009 for U.S. Appln No. 12/549,443 (41 pgs).

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	C1074	Application as filed on December 20, 2006 for U.S. Appln No. 11/613,656 (21 pgs).
	C1075	Application as filed on December 29, 2005 for U.S. Appln No. 11/321,025 (19 pgs).
	C1076	Application as filed on December 30, 2010 for U.S. Appln No. 12/982,494 (280 pgs).
	C1077	Application as filed on December 30, 2010 for U.S. Appln No. 12/982,561 (275 pgs).
	C1078	Application as filed on December 30, 2010 for U.S. Appln No. 12/982,578 (274 pgs).
	C1079	Application as filed on December 30, 2010 for U.S. Appln No. 12/982,594 (275 pgs).
	C1080	Application as filed on February 15, 2012 for U.S. Appln No. 13/397,405 (19 pgs).
	C1081	Application as filed on February 18, 2009 for U.S. Appln No. 12/388,005 (37 pgs).
	C1082	Application as filed on January 6, 2017 for U.S. Appln No. 15/400,350 (62 pgs).
	C1083	Application as filed on January 7, 2013 for U.S. Appln 13/735,678 (30 pgs).
	C1084	Application as filed on July 13, 2006 for U.S. Appln No. 11/487,537 (23 pgs).
	C1085	Application as filed on July 27, 2009 for U.S. Appln No. 12/509,613 (48 pgs).
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	C1088	Application as filed on June 8, 2011 for U.S. Appln No. 13/155,976 (352 pgs).
	C1089	Application as filed on June 8, 2011 for U.S. Appln No. 13/156,007 (356 pgs).
	C1090	Application as filed on June 8, 2011 for U.S. Appln No. 13/156,018 (353 pgs).
	C1091	Application as filed on March 15, 2007 for U.S. Appln No. 11/686,924 (34 pgs).
	C1092	Application as filed on March 15, 2007 for U.S. Appln No. 11/686,928 (36 pgs).
	C1093	Application as filed on March 15, 2013 for U.S. Appln No. 13/842,112 (62 pgs).
	C1094	Application as filed on March 4, 2009 for U.S. Appln No. 12/397,671 (40 pgs).
	C1095	Application as filed on March 4, 2009 for U.S. Appln No. 12/397,930 (37 pgs).
	C1096	Application as filed on May 10, 2007 for U.S. Appln No. 11/747,222 (35 pgs).
	C1097	Application as filed on May 17, 2016 for U.S. Appln No. 15/156,860 (71 pgs).
	C1098	Application as filed on October 17, 2008 for U.S. Appln No. 12/253,278 (42 pgs).
	C1099	Application as filed on October 17, 2013 for U.S. Appln No. 14/056,565 (53 pgs).
	C1100	Application as filed on October 23, 2007 for U.S. Appln No. 11/876,925 (36 pgs).
	C1101	Application as filed on October 23, 2007 for U.S. Appln No. 11/877,335 (29 pgs).
	C1102	Application as filed on October 25, 2007 for U.S. Appln No. 11/923,839 (22 pgs).
	C1103	Application as filed on October 29, 2007 for U.S. Appln No. 11/926,388 (23 pgs).
	C1104	Application as filed on October 30, 2007 for U.S. Appln No. 11/928,297 (26 pgs).
	C1105	Application as filed on October 31, 2006 for U.S. Appln No. 11/590,974 (31 pgs).
	C1106	Application as filed on October 31, 2006 for U.S. Appln No. 11/591,008 (27 pgs).
	C1107	Application as filed on October 31, 2006 for U.S. Appln No. 11/591,227 (58 pgs).
	C1108	Application as filed on October 31, 2006 for U.S. Appln No. 11/591,273 (56 pgs).
	C1109	Application as filed on October 31, 2007 for U.S. Appln No. 11/930,537 (27 pgs).
	C1110	Application as filed on October 31, 2007 for U.S. Appln No. 11/931,670 (47 pgs).
	C1111	Application as filed on October 8, 2007 for U.S. Appln No. 11/868,878 (30 pgs).
	C1112	Application as filed on October 8, 2007 for U.S. Appln No. 11/868,884 (30 pgs).
	C1113	Application as filed on September 28, 2007 for U.S. Appln No. 11/864,569 (35 pgs).
	C1114	Application as filed on September 8, 2008 for U.S. Appln No. 12/205,996 (30 pgs).
	C1115	Claims as filed on April 1, 2013 for U.S. Appln No. 13/854,521 (5 pgs).
	C1116	Claims as filed on April 3, 2008 for U.S. Appln No. 12/062,163 (3 pgs).
	C1117	Claims as filed on April 3, 2008 for U.S. Appln No. 12/062,175 (3 pgs).

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	C1118	Claims as filed on April 30, 2013 for U.S. Appln No. 13/874,145 (5 pgs).
	C1119	Claims as filed on August 19, 2010 for U.S. Appln No. 12/859,752 (5 pgs).
	C1120	Claims as filed on August 21, 2009 for U.S. Appln No. 12/545,127 (5 pgs).
	C1121	Claims as filed on December 15, 2011 for U.S. Appln No. 13/327,478 (4 pgs).
	C1122	Claims as filed on December 20, 2006 for U.S. Appln No. 11/613,671 (3 pgs).
	C1123	Claims as filed on December 20, 2012 for U.S. Appln No. 13/722,576 (4 pgs).
	C1124	Claims as filed on December 28, 2016 for U.S. Appln No. 15/392,950 (5 pgs).
	C1125	Claims as filed on December 29, 2005 for U.S. Appln No. 11/320,998 (3 pgs).
	C1126	Claims as filed on December 29, 2005 for U.S. Appln No. 11/321,027 (3 pgs).
	C1127	Claims as filed on December 8, 2010 for U.S. Appln No. 12/963,513 (7 pgs).
	C1128	Claims as filed on December 9, 2015 for U.S. Appln No. 14/964,279 (5 pgs).
	C1129	Claims as filed on February 12, 2013 for U.S. Appln No. 13/765,412 (1 pg).
	C1130	Claims as filed on February 15, 2012 for U.S. Appln No. 13/397,437 (6 pgs).
	C1131	Claims as filed on February 16, 2011 for U.S. Appln No. 13/028,477 (3 pgs).
	C1132	Claims as filed on February 16, 2015 for U.S. Appln No. 14/623,179 (10 pgs).
	C1133	Claims as filed on February 19, 2013 for U.S. Appln No. 13/770,048 (4 pgs).
	C1134	Claims as filed on February 3, 2016 for U.S. Appln No. 15/014,918 (5 pgs).
	C1135	Claims as filed on January 20, 2011 for U.S. Appln No. 13/010,644 (9 pgs).
	C1136	Claims as filed on January 31, 2011 for U.S. Appln No. 13/017,865 (11 pgs).
	C1137	Claims as filed on July 19, 2017 for U.S. Appln No. 15/654,497 (1 pg).
	C1138	Claims as filed on July 28, 2017 for U.S. Appln No. 15/663,284 (6 pgs).
	C1139	Claims as filed on July 28, 2017 for U.S. Appln No. 15/663,305 (6 pgs).
	C1140	Claims as filed on June 12, 2015 for U.S. Appln No. 14/738,340 (4 pgs).
	C1141	Claims as filed on June 13, 2012 for U.S. Appln No. 13/495,971 (36 pgs).
	C1142	Claims as filed on June 15, 2016 for U.S. Appln No. 15/183,461 (36 pgs).
	C1143	Claims as filed on June 20, 2013 for U.S. Appln No. 13/922,686 (7 pgs).
	C1144	Claims as filed on June 9, 2014 for U.S. Appln No. 14/299,456 (36 pgs).
	C1145	Claims as filed on March 15, 2007 for U.S. Appln No. 11/686,925 (5 pgs).
	C1146	Claims as filed on March 20, 2014 for U.S. Appln No. 14/220,799 (1 pg). (NOT 25th)
	C1147	Claims as filed on March 23, 2017 for U.S. Appln No. 15/467,167 (4 pgs).
	C1148	Claims as filed on March 25, 2014 for U.S. Appln No. 14/224,944 (4 pgs).
	C1149	Claims as filed on March 25, 2014 for U.S. Appln No. 14/225,090 (1 pg).
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	C1151	Claims as filed on May 10, 2007 for U.S. Appln No. 11/747,223 (4 pgs).
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	C1158	Claims as filed on October 09, 2015 for U.S. Appln No. 14/879,868 (4 pgs).
	C1159	Claims as filed on October 16, 2014 for U.S. Appln No. 14/516,335 (4 pgs).
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	C1161	Claims as filed on October 16, 2014 for U.S. Appln No. 14/516,364 (4 pgs).
	C1162	Claims as filed on October 2, 2017 for U.S. Appln No. 15/722,836 (4 pgs).
	C1163	Claims as filed on October 23, 2007 for U.S. Appln No. 11/877,382 (6 pgs).
	C1164	Claims as filed on October 24, 2008 for U.S. Appln No. 12/257,471 (4 pgs).
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	C1166	Claims as filed on October 31, 2006 for U.S. Appln No. 11/590,963 (3 pgs).
	C1167	Claims as filed on October 31, 2006 for U.S. Appln No. 11/590,995 (3 pgs).
	C1168	Claims as filed on October 31, 2006 for U.S. Appln No. 11/590,998 (4 pgs).

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	C1169	Claims as filed on October 31, 2006 for U.S. Appln No.11/591,131 (4 pgs).
	C1170	Claims as filed on October 31, 2007 for U.S. Appln No. 11/931,804 (4 pgs).
	C1171	Claims as filed on October 8, 2007 for U.S. Appln No. 11/868,878 (4 pgs).
	C1172	Claims as filed on September 14, 2012 for U.S. Appln No. 13/619,026 (3 pgs).
	C1173	Claims as filed on September 2, 2008 for U.S. Appln No. 12/202,781 (4 pgs).
	C1174	Claims as filed on September 4, 2015 for U.S. Appln No. 14/846,586 (7 pgs).
	C1175	Claims as filed on September 5, 2017 for U.S. Appln No. 15/695,770 (7 pgs).
	C1176	Claims as filed on September 8, 2008 for U.S. Appln No. 12/206,001 (3 pgs).
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	C1182	Office Action dated October 6, 2016 from corresponding U.S. Appln No. 14/225,090 (6 pgs).
	C1183	Final Office Action dated September 30, 2015 from corresponding U.S. Appln No. 14/225,090 (10 pgs).
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	C1201	Doermann, David et al., “Progress in Camera-Based Document Image Analysis,” IEEE Computer Society, (ICDAR 2003) 2003 (11 pgs).
	C1202	Lampert, Christoph et al., "Oblivious Document Capture and Real-Time Retrieval," International Workshop on Camera Based Document Analysis and Recognition (CBDAR), 2005 (8 pgs).
	C1203	Vaream, Craig, "Image Deposit Solutions: Emerging Solutions for More Efficient Check Processing," JP Morgan Chase, November 2005 (16 pgs).
	C1204	Claims as filed January 24, 2018 for U.S. Appln No. 15/878,821 (5 pgs).
	C1205	Claims as filed January 31, 2018 for U.S. Appln No. 15/884,990 (6 pgs).
	C1206	Claims as filed on April 9, 2018 for U.S. Appln No. 15/948,510 (5 pgs)
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	C1212	Aradhye, Hrishikesh B., "A Generic Method for Determining Up/Down Orientation of Text in Roman and Non-Roman Scripts," Pattern Recognition Society, December 13, 2014, 18 pages.
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Examiner Signature		Date Considered	

1. PRIORITY INFORMATION:

☒ This application claims priority under 35 USC §120 to the following United States patent application(s): 15/663,284; 14/225,090 and 11/590,974. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

2. CERTIFICATIONS: (CHECK ALL THAT APPLY)

A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

B. For Patent Term Adjustment Purposes:

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant hereby certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

3. FEE INFORMATION: (CHECK IF FEE REQUIRED)

☒ Applicant has calculated a processing fee in the amount of $240 (large entity) to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging the fee to Deposit Account 50-4184.

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184.

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

November 15, 2018
Date

/Peter S. Lee/
Peter S. Lee (Reg. No. 64,728)

Examiner Signature		Date Considered	

Electronic Patent Application Fee Transmittal					
Application Number:	16025701				
Filing Date:	02-Jul-2018				
Title of Invention:	DIGITAL CAMERA PROCESSING SYSTEM				
First Named Inventor/Applicant Name:	Charles Lee Oakes				
Filer:	Peter S. Lee				
Attorney Docket Number:	US-0152.09 (14538-649)				
Filed as Large Entity					
Filing Fees for Utility under 35 USC 111(a)					
Description		**Fee Code**	**Quantity**	**Amount**	**Sub-Total in USD($)**
Basic Filing:					
Pages:					
Claims:					
Miscellaneous-Filing:					
Petition:					
Patent-Appeals-and-Interference:					
Post-Allowance-and-Post-Issuance:					
Extension-of-Time:					

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	1806	1	240	240
		Total in USD ($)		**240**

Electronic Acknowledgement Receipt	
EFS ID:	34316488
Application Number:	16025701
International Application Number:	
Confirmation Number:	8845
Title of Invention:	DIGITAL CAMERA PROCESSING SYSTEM
First Named Inventor/Applicant Name:	Charles Lee Oakes
Customer Number:	16530
Filer:	Peter S. Lee/Camilo Arce
Filer Authorized By:	Peter S. Lee
Attorney Docket Number:	US-0152.09 (14538-649)
Receipt Date:	15-NOV-2018
Filing Date:	02-JUL-2018
Time Stamp:	11:07:43
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$240
RAM confirmation Number	111518INTEFSW00013253504184
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	14538-649_Transmittal.pdf	120529 0f05c30540cba9b133e03e2a2ee68eb464cf9dcc	no	1
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	14538-649_Second_Supplemental_IDS.pdf	387320 c7b99e361a18382341fd1d3e1d55bf5eafca32f5	no	32
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
3	Fee Worksheet (SB06)	fee-info.pdf	30420 a4f19dd35446f554b090b15dcf988f1e8e24db10	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	538269		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: November 15, 2018 Name: Peter S. Lee (Reg. No. 64,728) Signature: /Peter S. Lee/



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. of:	Charles Lee Oakes, et al.		
Appln. No.:	16/025,701	Examiner:	Ojo O. Oyebisi
Filed:	July 2, 2018	Art Unit:	3697
For:	DIGITAL CAMERA PROCESSING SYSTEM	Conf. No.:	8845
Attorney Docket No.:	US-0152.09 (14538-649)		

TRANSMITTAL

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Attached is/are:

☒ Second Supplemental Information Disclosure Statement by Applicant.

Fee calculation:

☐ No additional fee is required.

☐ Per 37 CFR §1.27, ☐ Applicant is small entity ☐ Applicant is micro entity.

☐ An extension fee in an amount of $_____ for a _____-month extension of time under 37 CFR § 1.136(a).

☒ A petition or processing fee in an amount of $240 under 37 CFR § 1.17(p).

☐ An additional filing fee has been calculated as shown below:

					Fee		Small Entity Fee		Micro Entity Fee	
	Claims Remaining After Amendment		Highest No. Previously Paid	Present Extra	Rate	Add'l Fee	Rate	Add'l Fee	Rate	Add'l Fee
Total		Minus			x $100 =	$	x $ 50 =	$	x $25 =	$
Independent		Minus			x $460 =	$	x $230 =	$	x $115 =	$
First Presentation of Multiple Dep. Claim					+ $820 =	$	+ $410 =	$	+ $205 =	$
					Total	$	Total	$	Total	$

Fee payment:

☒ Please charge Deposit Account No. 50-4184 in the amount of $240 for Information Disclosure Statement.

☐ Payment by credit card in the amount of $_____ (Form PTO-2038 is attached).
WARNING: Information on this form may become public. **Credit card information should not be included on this form.**

☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 50-4184.

Respectfully submitted,

November 15, 2018
Date

/Peter S. Lee/
Peter S. Lee (Reg. No. 64,728)

BRINKS GILSON & LIONE
NBC Tower – Suite 3600, 455 N. Cityfront Plaza Drive, Chicago, IL 60611-5599

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: November 14, 2018 Name: Peter S. Lee (Reg. No. 64,728) Signature: /Peter S. Lee/

BRINKS GILSON & LIONE 100 YEARS OF IP LAW

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16/025,701
	Filing Date	July 2, 2018
	First Named Inventor	Charles Lee Oakes
	Art Unit	3697
	Confirmation Number	8845
	Examiner Name	Ojo O. Oyebisi
	Attorney Docket No.	US-0152.09|14538-649

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

US PATENT REFERENCES

EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	B1	6,931,255 B2	08/16/2015	Mekuria
	B2	7,120,461 B2	10/10/2006	Cho
	B3	7,419,093 B1	09/02/2008	Blackson et al.
	B4	2007/0262148 A1	11/15/2007	Yoon

FOREIGN PATENT REFERENCES

EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	COUNTRY	TRANSLATION YES OR NO
	B				

OTHER ART – NON PATENT LITERATURE DOCUMENTS

EXAMINER INITIAL		Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	B5	Petition filed by Wells Fargo Bank, N.A. for Covered Business Method Review of Claims 1-20 of US Patent No. 9,818,090, dated November 8, 2018, 90 pgs.
	B6	Petition filed by Wells Fargo Bank, N.A. for Covered Business Method Review of Claims 1-20 of US Patent No. 9,336,517, dated November 8, 2018, 98 pgs.
	B7	Petition filed by Wells Fargo Bank, N.A. for Covered Business Method Review of Claims 1-20 of US Patent No.8,977,571, dated November 8, 2018, 95 pgs.
	B8	Petition filed by Wells Fargo Bank, N.A. for Covered Business Method Review of Claims 1-23 of US Patent No. 8,699,779, dated November 8, 2018, 101 pgs.

1. PRIORITY INFORMATION:

☒ This application claims priority under 35 USC §120 to the following United States patent application(s): US Serial No. 15/663,284; 14/225,090 and 11/590,974. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

Examiner Signature		Date Considered	

2. CERTIFICATIONS: (CHECK ALL THAT APPLY)

A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☒ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

B. For Patent Term Adjustment Purposes:

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant hereby certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

3. FEE INFORMATION: (CHECK IF FEE REQUIRED)

☐ Applicant has calculated a processing fee in the amount of $_ to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging the fee to Deposit Account. _

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184.

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

November 14, 2018
Date

/Peter S. Lee/
Peter S. Lee (Reg. No. 64728)

Examiner Signature		Date Considered	

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: November 14, 2018 Name: Peter S. Lee (Reg. No. 64,728) Signature: /Peter S. Lee/

BRINKS GILSON & LIONE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. of:	Charles Lee Oakes et al.		
Appln. No.:	16/025,701	Examiner:	Ojo O. Oyebisi
Filed:	July 2, 2018	Art Unit:	3697
For:	DIGITAL CAMERA PROCESSING SYSTEM	Conf. No.:	8845
Attorney Docket No.:	US-0152.09|14538-649		

TRANSMITTAL

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Attached is/are:

☒ Supplemental Information Disclosure Statement (2 pgs) and pdf copies of references B5-B8.

Fee calculation:

☒ No additional fee is required.

☐ Per 37 CFR §1.27, ☐ Applicant is small entity ☐ Applicant is micro entity.

☐ An extension fee in an amount of $_____ for a _____-month extension of time under 37 CFR § 1.136(a).

☐ A petition or processing fee in an amount of $_____ under 37 CFR § 1.1_____(_____).

☐ An additional filing fee has been calculated as shown below:

					Fee		Small Entity Fee		Micro Entity Fee	
	Claims Remaining After Amendment		Highest No. Previously Paid	Present Extra	Rate	Add'l Fee	Rate	Add'l Fee	Rate	Add'l Fee
Total		Minus			x $100 =	$	x $ 50 =	$	x $25 =	$
Independent		Minus			x $460 =	$	x $230 =	$	x $115 =	$
First Presentation of Multiple Dep. Claim					+ $820 =	$	+ $410 =	$	+ $205 =	$
					Total	$	Total	$	Total	$

Fee payment:

☐ Please charge Deposit Account No. 50-4184 in the amount of $_ for _.

☐ Payment by credit card in the amount of $_____ (Form PTO-2038 is attached).
WARNING: Information on this form may become public. **Credit card information should not be included on this form.**

☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 50-4184.

Respectfully submitted,

November 14, 2018
Date

/Peter S. Lee/
Peter S. Lee (Reg. No. 64,728)

Electronic Acknowledgement Receipt	
EFS ID:	34312295
Application Number:	16025701
International Application Number:	
Confirmation Number:	8845
Title of Invention:	DIGITAL CAMERA PROCESSING SYSTEM
First Named Inventor/Applicant Name:	Charles Lee Oakes
Customer Number:	16530
Filer:	Peter S. Lee/Jeff Skinner
Filer Authorized By:	Peter S. Lee
Attorney Docket Number:	US-0152.09 (14538-649)
Receipt Date:	14-NOV-2018
Filing Date:	02-JUL-2018
Time Stamp:	17:29:53
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		14538-649_Suppl-IDS-CBM-Art.pdf	395503 f05ee29fc9d8f4b56d3880edcd48448c5bff0d21	yes	3

	Multipart Description/PDF files in .zip description				
	Document Description	**Start**	**End**		
	Information Disclosure Statement (IDS) Form (SB08)	2	3		
	Transmittal Letter	1	1		
Warnings:					
Information:					
2	Non Patent Literature	001_Petition_090_Patent-cc.pdf	1471096 6bde270fd14c88bc34bf078ec0bcb7a19dfd0f67	no	90
Warnings:					
Information:					
3	Non Patent Literature	002_Petition_517_Patent-cc.pdf	1784738 9e04e7e533aa749d8db64c227414e2aa1ed627f4	no	98
Warnings:					
Information:					
4	Non Patent Literature	003_Petition_571_Patent-cc.pdf	1447872 647a4f9407b5500f889cf7298af8bc1b17cc7cec	no	95
Warnings:					
Information:					
5	Non Patent Literature	004_Petition_779_Patent-cc.pdf	1712446 4698cbc7adad6918a481b25a62b77e814aa5c77d	no	101
Warnings:					
Information:					
		Total Files Size (in bytes):	6811655		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
16/025,701	07/02/2018	3697	3180	US-0152.09 (14538-649)	30	4

CONFIRMATION NO. 8845

CORRECTED FILING RECEIPT

16530
BGL
P.O. Box 10395
Chicago, IL 60611

OC000000105015838

Date Mailed: 10/12/2018

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Charles Lee Oakes III, San Antonio, TX;
Randy Ray Morlen, San Antonio, TX;
Michael Frank Morris, San Antonio, TX;
Reynaldo Medina III, San Antonio, TX;
Greg Alan Harpel, San Antonio, CA;
Gabriel Glenn Gavia, San Antonio, TX;
Bharat Prasad, San Antonio, TX;
Frank Kyle Major, San Antonio, TX;
Jeffrey Neal Pollack, San Antonio, TX;

Applicant(s)

United Services Automobile Association (USAA), San Antonio, TX;

Assignment For Published Patent Application

United Services Automobile Association (USAA)

Power of Attorney: The patent practitioners associated with Customer Number 16530

Domestic Priority data as claimed by applicant

This application is a CON of 15/663,284 07/28/2017 PAT 10013605
and is a CON of 14/225,090 03/25/2014
which is a CON of 11/590,974 10/31/2006 PAT 8708227
and said 15/663,284 07/28/2017
is a CON of 14/225,090 03/25/2014

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 07/18/2018

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/025,701**

Projected Publication Date: Request for Non-Publication Acknowledged

Non-Publication Request: Yes

Early Publication Request: No

Title

DIGITAL CAMERA PROCESSING SYSTEM

Preliminary Class

705

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign

patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: October 10, 2018 Name: Peter S. Lee (Reg. No.64,728) Signature: /Peter S. Lee/

BRINKS GILSON & LIONE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:

Charles Lee Oakes

Serial No.: 16/025,701

Filing Date: July 2, 2018

For: DIGITAL CAMERA PROCESSING SYSTEM

Examiner: OYEBISI, OJO O

Group Art Unit: 3693

Confirmation No.: 8845

CORRECTED APPLICATION DATA SHEET

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant is filing a Corrected Application Data Sheet (ADS) to correct the ADS filed with the application on July 2, 2018. The corrections provided in the present Corrected ADS updates the chain of priority under 35 U.S.C. 120 identified in the Domestic Benefit/National Stage Information section.

Specifically, the Corrected ADS identifies that the present application is a Continuation of both U.S. Patent Application No. 15/663,284 filed on July 28, 2017 (issued as U.S. Patent No. 10,013,605 on July 3, 2018), and U.S. Patent Application No. 14/225,090 filed on March 25, 2014 (still pending). Furthermore, the Corrected ADS identifies U.S. Patent Application No. 15/663,284 as being a continuation of U.S. Patent Application No. 14/225,090. Furthermore, the Corrected ADS identifies U.S. Patent Application No. 14/225,090 as being a continuation of U.S. Patent Application No. 11/590,974 filed on October 31, 2006 (issued as U.S. Patent No. 8,708,227 on April 29, 2014).

This claim to priority under 35 U.S.C. 120 is being made within the time period identified in 37 C.F.R. 1.78. Applicant notes that U.S. Patent Application No. 14/225,090 and U.S. Patent Application No. 15/663,284 were both still pending on July 2, 2018 at the time of filing the above-captioned patent application US 16/025,701.

Applicant requests issuance of a Revised Filing Receipt for the above-captioned patent application US 16/025,701 that reflects the full claims to priority included in the Corrected ADS. In particular, the Domestic Benefit/National Stage Information section of the Revised Filing Receipt is requested to be revised to add the following:

> This application is a CON of 15/663,284 07/28/2017 PAT 10013605
> and is a CON of 14/225,090 03/25/2014
> which is a CON of 11/590,974 10/31/2006 PAT 8708227
> and said 15/663,284 07/28/2017
> is a CON of 14/225,090 03/25/2014

Applicant believes no fees are due with this submission. If necessary, however, the Commissioner is hereby authorized to charge any fees required, or to credit any overpayments, to Deposit Account No. 50-4184.

Respectfully submitted,

October 10, 2018	/Peter S. Lee/
Date	Peter S. Lee Reg. No. 64,728
	Attorney for Applicant(s)

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Charles	Lee	Oakes	III

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	San Antonio	State/Province	TX	Country of Residence	US

Mailing Address of Inventor:

Address 1	119 Roadrunner Circle		
Address 2			
City	San Antonio	State/Province	TX
Postal Code	78006	Country i	US

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Randy	Ray	Morlen	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	San Antonio	State/Province	TX	Country of Residence	US

Mailing Address of Inventor:

Address 1	1939 Creek Hollow		
Address 2			
City	San Antonio	State/Province	TX
Postal Code	78259	Country i	US

Inventor 3 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Michael	Frank	Morris	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

City	San Antonio	State/Province	TX	Country of Residence	US

Mailing Address of Inventor:

Address 1	4911 Brandeis Street		
Address 2			
City	San Antonio	State/Province	TX
Postal Code	78249	Country i	US

Inventor 4 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Reynaldo		Medina	III

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	State/Province	TX	Country of Residence	US

Mailing Address of Inventor:

Address 1	9218 Dublin Heights		
Address 2			
City	San Antonio	State/Province	TX
Postal Code	78254	Country i	US

Inventor 5 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Greg	Alan	Harpel	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	State/Province	TX	Country of Residence	US

Mailing Address of Inventor:

Address 1	13634 Shady Walk		
Address 2			
City	San Antonio	State/Province	TX
Postal Code	78231	Country i	US

Inventor 6 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Gabriel	Glenn	Gavia	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	State/Province	TX	Country of Residence	US

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Mailing Address of Inventor:

Address 1	8810 Toulouse		
Address 2			
City	San Antonio	**State/Province**	TX
Postal Code	78240	**Country**	US

Inventor 7 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Bharat		Prasad	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	**State/Province**	TX	**Country of Residence**	US

Mailing Address of Inventor:

Address 1	114 Sable Heights		
Address 2			
City	San Antonio	**State/Province**	TX
Postal Code	78258	**Country**	US

Inventor 8 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Frank	Kyle	Major	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	**State/Province**	TX	**Country of Residence**	US

Mailing Address of Inventor:

Address 1	25135 Callaway		
Address 2			
City	San Antonio	**State/Province**	TX
Postal Code	78260	**Country**	US

Inventor 9 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Jeffrey	Neal	Pollack	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	**State/Province**	TX	**Country of Residence**	US

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Mailing Address of Inventor:			
Address 1	12503 Bear Trail		
Address 2			
City	San Antonio	State/Province	TX
Postal Code	78249	Country i	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	16530		
Email Address	officeactions@brinksgilson.com	Add Email	Remove Email

Application Information:

Title of the Invention	DIGITAL CAMERA PROCESSING SYSTEM		
Attorney Docket Number	US-0152.09 (14538-649)	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	6	Suggested Figure for Publication (if any)	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☒ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	(●) Customer Number	( ) US Patent Practitioner	( ) Limited Recognition (37 CFR 11.9)
Customer Number	16530		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Patented		Remove		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16025701	Continuation of	15663284	2017-07-28	10013605	2018-07-03

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
16025701	Continuation of	14225090	2014-03-25

Prior Application Status	Patented		Remove		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14225090	Continuation of	11590974	2006-10-31	8708227	2014-04-29

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
15663284	Continuation of	14225090	2014-03-25

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◉ Assignee	○ Legal Representative under 35 U.S.C. 117	○ Joint Inventor
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name	United Services Automobile Association (USAA)

Mailing Address Information For Applicant:

Address 1	Reciprocal Interinsurance Exchange in the State of Texas		
Address 2	9800 Fredericksburg Road		
City	San Antonio	**State/Province**	TX
Country	US	Postal Code	78288
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Peter S. Lee/			Date (YYYY-MM-DD)	2018-10-10
First Name	Peter	Last Name	Lee	Registration Number	64,728

Additional Signature may be generated within this form by selecting the Add button.

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Electronic Acknowledgement Receipt	
EFS ID:	33964385
Application Number:	16025701
International Application Number:	
Confirmation Number:	8845
Title of Invention:	DIGITAL CAMERA PROCESSING SYSTEM
First Named Inventor/Applicant Name:	Charles Lee Oakes
Customer Number:	16530
Filer:	Peter S. Lee/Michael Agustin
Filer Authorized By:	Peter S. Lee
Attorney Docket Number:	US-0152.09 (14538-649)
Receipt Date:	10-OCT-2018
Filing Date:	02-JUL-2018
Time Stamp:	13:38:55
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	14538-649_Transmittal_.pdf	120552 2156e1db746b0e6a86cbf46c8531fbf6ee0d3c74	no	1
Warnings:					

Information:					
2	Request for Corrected Filing Receipt	14538-649_Corrected_Application_Data_Sheet_III.pdf	109846 84b6b7afd8807e8da47a478dd7b1cd1fc5b39e7c	no	2
Warnings:					
Information:					
3	Application Data Sheet	14538-649_Corrected_ADS_.pdf	171425 8b9402a4bd5b4d3406bc848394d9eee948bea9cb	no	10
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
			Total Files Size (in bytes):	401823	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: October 10, 2018 Name: Peter S. Lee (Reg. No. 64,728) Signature: /Peter S. Lee/



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. of:	Charles Lee Oakes, et al.		
Appln. No.:	16/025,701	Examiner:	Ojo O. Oyebisi
Filed:	July 2, 2018	Art Unit:	3697
For:	DIGITAL CAMERA PROCESSING SYSTEM	Conf. No.:	8845
Attorney Docket No.:	US-0152.09 (14538-649)		

TRANSMITTAL

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Attached is/are:

☒ Letter for a Corrected Application Data Sheet, and Corrected Application Data Sheet (Form PTO/AIA/14).

Fee calculation:

☒ No additional fee is required.

☐ Per 37 CFR §1.27, ☐ Applicant is small entity ☐ Applicant is micro entity.

☐ An extension fee in an amount of $_____ for a _____-month extension of time under 37 CFR § 1.136(a).

☐ A petition or processing fee in an amount of $_____ under 37 CFR § 1.1_____(_____).

☐ An additional filing fee has been calculated as shown below:

					Fee		Small Entity Fee		Micro Entity Fee	
	Claims Remaining After Amendment		Highest No. Previously Paid	Present Extra	Rate	Add'l Fee	Rate	Add'l Fee	Rate	Add'l Fee
Total		Minus			x $100 =	$	x $ 50 =	$	x $25 =	$
Independent		Minus			x $460 =	$	x $230 =	$	x $115 =	$
First Presentation of Multiple Dep. Claim					+ $820 =	$	+ $410 =	$	+ $205 =	$
					Total	$	Total	$	Total	$

Fee payment:

☐ Please charge Deposit Account No. 50-4184 in the amount of $_____ for _____.

☐ Payment by credit card in the amount of $_____ (Form PTO-2038 is attached).
WARNING: Information on this form may become public. **Credit card information should not be included on this form.**

☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 50-4184.

Respectfully submitted,

October 10, 2018
Date

/Peter S. Lee/
Peter S. Lee (Reg. No. 64,728)

BRINKS GILSON & LIONE
NBC Tower – Suite 3600, 455 N. Cityfront Plaza Drive, Chicago, IL 60611-5599

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: September 28, 2018 Name: Scott W. Brim (Reg. No. 51,500) Signature: /Scott W. Brim/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	16/025,701
	Filing Date	July 2, 2018
	First Named Inventor	Charles Lee Oakes
	Art Unit	3697
	Confirmation Number	8845
	Examiner Name	Ojo O. Oyebisi
	Attorney Docket No.	US-0152.09 | 14538-649

In accordance with the duty of disclosure, Applicant(s) hereby cites the following references:

US PATENT REFERENCES

EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	NAME
	A1	5,077,805	12/31/1991	Tan
	A2	5,091,968	02/25/1992	Higgins et al.
	A3	5,164,833	11/17/1992	Aoki
	A4	5,237,620	08/17/1993	Deaton et al.
	A5	5,345,090	09/06/1994	Hludzinski
	A6	5,444,616	08/22/1995	Nair et al.
	A7	5,455,875	10/03/1995	Chevion et al.
	A8	6,059,185	05/09/2000	Funk et al.
	A9	6,148,102	11/14/2000	Stolin
	A10	6,181,837 B1	01/30/2001	Cahill et al.
	A11	6,351,735 B1	02/26/2002	Deaton et al.
	A12	6,473,519 B1	10/29/2002	Pidhirny et al.
	A13	2007/0076941 A1	04/05/2007	Carreon et al.
	A14	2007/0138255 A1	06/21/2007	Carreon et al.
	A15	2009/0076921 A1	03/19/2009	Nelson et al.
	A16	2009/0114716 A1	05/07/2009	Ramachandran

FOREIGN PATENT REFERENCES

EXAMINER INITIAL		DOCUMENT NUMBER Number-Kind Code (if known)	DATE	COUNTRY	TRANSLATION YES OR NO
	A				

OTHER ART – NON PATENT LITERATURE DOCUMENTS

EXAMINER INITIAL		Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	A17	Defendant Wells Fargo Bank, N.A.'s Answer, Affirmative Defenses, and Counterclaims to Plaintiff's Complaint, dated August 14, 2018, 64 pgs.
	A18	LEICA DIGILUX 2 Instructions located on the Internet: http://www.overgaard.dk/pdf/d2_manual.pdf (attached as Exhibit 2 from the Defendant Wells Fargo Bank N.A.'s Answer dated August 14, 2018), 95 pgs.

Examiner Signature		Date Considered	

EXAMINER INITIAL	Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
	A19	SONY Digital Camera User's Guide/ Trouble Shooting Operating Instructions, copyright 2005, located on the Internet at: https://www.sony.co.uk/electronics/support/res/manuals/2654/26544941M.pdf (attached as Exhibit 3 from the Defendant Wells Fargo Bank N.A.'s Answer dated August 14, 2018), 136 pgs.
	A20	Panasonic Operating Instructions for Digital Camera/Lens Kit Model No. DMC-L1K, https://www.panasonic.com/content/dam/Panasonic/support_manual/Digital_Still_Camera/English_01-vqt0-vqt2/vqt0w95_L1_oi.pdf (attached as Exhibit 4 from the Defendant Wells Fargo Back N.A.'s Answer dated August 14, 2018), 129 pgs.
	A21	Nikon Digital Camera D300 User's Manual, located on the Internet at: http://download.nikonimglib.com/archive2/iBuJv00Aj97i01y8BrK49XX0Ts69/D300_EU(En)04.pdf (attached as Exhibit 5 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 195 pgs.
	A22	Canon EOS 40D Digital Camera Instruction Manual, located on the Internet at: http://gdlp01.c-wss.com/gds/6/0900008236/01/EOS40D_HG_EN.pdf (attached as Exhibit 6 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 38 pgs.
	A23	Motorola RAZR MAXX V6 User Manual, located on the Internet at: https://www.phonearena.com/phones/Motorola-RAZR-MAXX-V6_id1680, (attached as Exhibit 7 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 36 pgs.
	A24	MOTOMANUAL for MOTORAZR, located on the Internet at: https://www.cellphones.ca/downloads/phones/manuals/motorola-razr-v3xx-manual.pdf (excerpts attached as Exhibit 8 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 34 pgs.
	A25	Nokia N95 8GB User Guide, copyright 2009, located on the Internet at: https://www.nokia.com/en_int/phones/sites/default/files/user-guides/Nokia_N95_8GB_Extended_UG_en.pdf (excerpts attached as Exhibit 9 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 77 pgs.
	A26	Helio Ocean User Manual, located on the Internet at: https://standupwireless.com/wp-content/uploads/2017/04/Manual_PAN-TECH_OCEAN.pdf (excerpts attached as Exhibit 10 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 76 pgs.
	A27	HTC Touch Diamond Manual, copyright 2008, (attached as Exhibit 11 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 257 pgs.
	A28	*Automated Clearing Houses* (ACHs), Federal Reserve Bank of New York (May 2000) available at: https://www.newyorkfed.org/aboutthefed/fedpoint/fed31.html, (attached as Exhibit 12 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 4 pgs.
	A29	*POP, ARC and BOC—A Comparison*, Federal Reserve Banks, at 1(Jan. 7, 2009), available on the Internet at: https://web.archive.org/web/20090107101808/https://www.frbservices.org/files/eventseducation/ pdf/pop_arc_boc_comparison.pdf (attached as Exhibit 13 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 3 pgs.
	A30	David B. Humphrey & Robert Hunt, *Getting Rid of Paper: Savings From Check 21*, Working Paper No. 12-12, Research Department, Federal Reserve Bank of Philadelphia, (May 2012), available on the Internet at: https://philadelphiafed.org/-/media/research-and-data/publications/working-papers/2012/wp12-12.pdf, (attached as Exhibit 14 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 29 pgs.

Examiner Signature		Date Considered	

EXAMINER INITIAL	Include name of author, title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	
	A31	Jeffrey M. Lacker, *Payment System Disruptions and the Federal Reserve Following September 11, 2001*, The Federal Reserve Bank of Richmond, (Dec. 23, 2003) (attached as Exhibit 19 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 55 pgs.
	A32	Check Clearing for the 21st Century Act Foundation for Check 21 Compliance Training, Federal Financial Institutions Examination Council, (Oct. 16, 2004), available on the Internet at: https://web.archive.org/web/20041016100648/https://www.ffiec.gov/exam/check21/check21foundationdoc.htm, (excerpts attached as Exhibit 20 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018),11 pgs.
	A33	*Big Red Book*, Adobe Systems Incorporated, copyright 2000, (attached as Exhibit 27 from the Defendant Wells Fargo Bank, N.A.'s Answer dated August 14, 2018), 45 pgs.

1. PRIORITY INFORMATION:

☒ This application claims priority under 35 USC §120 to the following United States patent application(s): US Serial No. 15/663,284; US Serial No. 14/225,090 and US Serial No. 11/590,974. In accordance with 37 CFR §1.98(d), copies of the references cited herein which were submitted to, or cited by, the office, in compliance with 37 CFR §1.98(a)-(c) in the earlier application are not provided herewith. The Examiner is directed to those references cited in all Information Disclosure Statements filed in the priority United States patent application(s) cited above in addition to the references cited herein.

2. CERTIFICATIONS: (CHECK ALL THAT APPLY)

A. Certifications For 37 CFR §1.97(c) or 37 CFR §1.97(d):

☐ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(1) that each item of information in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

☒ Applicant hereby certifies pursuant to 37 CFR §1.97(e)(2) that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Statement was known to any individual designated in 37 CFR §1.56(c), more than three months prior to the filing of this Information Disclosure Statement.

B. For Patent Term Adjustment Purposes:

☐ For purposes of 37 CFR §1.704(d)(i) or 37 CFR §1.704(d)(ii), Applicant hereby certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a patent office in a counterpart foreign or international application or from the Office or is a communication that was issued by a patent office in a counterpart foreign or international application or by the Office, and that this communication was not received by any individual designated in 37 CFR §1.56(c) more than thirty days prior to the filing of this Information Disclosure Statement.

3. FEE INFORMATION: (CHECK IF FEE REQUIRED)

☐ Applicant has calculated a processing fee in the amount of _____ to be due under 37 CFR §1.17(p) in connection with the filing of this Information Disclosure Statement. Applicant authorizes charging the fee to Deposit Account. 50-4184.

☒ The Director is hereby authorized to charge any fee deficiency associated with the filing of this Information Disclosure Statement to Deposit Account 50-4184.

Examiner Signature		Date Considered	

Information Disclosure Statement

Application No. 16/025,701 Attorney Docket No. US-0152.09 | 14538-649

Pursuant to the undersigned attorney's obligation and duties under 37 CFR §§ 1.56 and 1.98(a)(3) and (c), either English language abstracts, partial translations, or full translations are included for patent documents which are not in English for the express purpose of providing a concise explanation of the references to the Patent and Trademark Office with the opportunity to evaluate the same. Applicant respectfully requests the Examiner's consideration of the above reference(s) and entry thereof into the record of this application.

By submitting this Statement, Applicant is attempting to fully comply with the duty of candor and good faith mandated by 37 CFR §1.56. As such, this Statement is not intended to constitute an admission that any of the enclosed references, or other information referred to therein, constitutes "prior art" or is otherwise "material to patentability," as that phrase is defined in 37 CFR §1.56(a).

Respectfully submitted,

September 28, 2018	/Scott W. Brim/
Date	Scott W. Brim (Reg. No. 51,500)

Examiner Signature		Date Considered	

Electronic Acknowledgement Receipt

EFS ID:	33867774
Application Number:	16025701
International Application Number:	
Confirmation Number:	8845
Title of Invention:	DIGITAL CAMERA PROCESSING SYSTEM
First Named Inventor/Applicant Name:	Charles Lee Oakes
Customer Number:	16530
Filer:	Scott Wayne Brim/Camilo Arce
Filer Authorized By:	Scott Wayne Brim
Attorney Docket Number:	US-0152.09 (14538-649)
Receipt Date:	28-SEP-2018
Filing Date:	02-JUL-2018
Time Stamp:	18:15:50
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	14538-649_IDS-Transmittal.pdf	105359 2e82909cc1d7f341eefa6daa41579b1afd4e216b	no	1
Warnings:					

Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	14538-649_Suppl-IDS_WellsArt_.pdf	131345 acd72d7e9be34e3648a6cabb47c960945c25dd72	no	4
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
3	Non Patent Literature	1_Wells_Fargo_Answer-c.pdf	4791001 7fea19028e6efc60970ae8e9973e48a03b7b0bbb	no	64
Warnings:					
Information:					
4	Non Patent Literature	16-2-Exhibit-2-c.pdf	2130701 410721636161577e9e9e72d27ed134effb15fe17	no	95
Warnings:					
Information:					
5	Non Patent Literature	16-3-Exhibit-3-c.pdf	4393324 5ff46a49978fb3fab624271c1858c6f0132487fd	no	136
Warnings:					
Information:					
6	Non Patent Literature	16-4-Exhibit-4-c.pdf	5841505 50838db062b655c89301631cc7bcf8b66776d6d3	no	129
Warnings:					
Information:					
7	Non Patent Literature	16-5-Exhibit-5-c.pdf	7877446 03a0c4a2e0aeacb46841679593eaca4d4316b145	no	195
Warnings:					
Information:					
8	Non Patent Literature	16-6-Exhibit-6-c.pdf	16056697 0d69cfb6852650770cd038e64de72e58a3737250	no	38
Warnings:					
Information:					

9	Non Patent Literature	16-7-Exhibit-7-c.pdf	3321073 0531981c39b97f629088f7345675ce79db6453e2	no	36
Warnings:					
Information:					
10	Non Patent Literature	16-8-Exhibit-8-c.pdf	2138508 36343a275af6d446b92ba8451c09d7c57b0fe9d2	no	34
Warnings:					
Information:					
11	Non Patent Literature	16-9-Exhibit-9-c.pdf	23745297 04506b1b33eec343c770060711ba507f3cd56feb	no	77
Warnings:					
Information:					
12	Non Patent Literature	16-10-Exhibit-10-c.pdf	2698540 7ff5a32c816e428066b8968af4ef007c787381ef	no	76
Warnings:					
Information:					
13	Non Patent Literature	17-1-Exhibit-11-c.pdf	5550015 012cfa29760faa590557d8e2f04fd4b9dbb50ad7	no	257
Warnings:					
Information:					
14	Non Patent Literature	17-2-Exhibit-12-c.pdf	101429 884ef4aed1d429abee49164ee8b12d5a4f814085	no	4
Warnings:					
Information:					
15	Non Patent Literature	17-3_Exbibit-13-c.pdf	118805 e6d28a6929438c17db35916815c0b43a07cdaea4	no	3
Warnings:					
Information:					

16	Non Patent Literature	17-4-Exhibit-14-c.pdf	554675 501fa1ee786aedcf1a84ec45c233186415e17671	no	29
Warnings:					
Information:					
17	Non Patent Literature	17-9-Exhibit-19-c.pdf	1095311 0c62c36296f5fc6561dc32ad194ded6adb434dad	no	55
Warnings:					
Information:					
18	Non Patent Literature	17-10-Exhibit-20-c.pdf	247021 92008129115a3586296f30402959f230fa56f422	no	11
Warnings:					
Information:					
19	Non Patent Literature	18-7-Exhibit-27-c.pdf	3320403 1e8b5211935dc37c7cf330e138034419874a92d0	no	45
Warnings:					
Information:					
		Total Files Size (in bytes):	84218455		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: September 28, 2018 Name: Scott W. Brim (Reg. No. 51,500) Signature: /Scott W. Brim/



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. of:	Charles Lee Oakes et al.		
Appln. No.:	16/025,701	Examiner:	Ojo O Oyebisi
Filed:	July 2, 2018	Art Unit:	3697
For:	DIGITAL CAMERA PROCESSING SYSTEM	Conf. No.:	8845
Attorney Docket No.:	US-0152.09|14538-649		

TRANSMITTAL

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Attached is/are:

☒ Information Disclosure Statement (4 pgs) and cited references A17-A33.

Fee calculation:

☒ No additional fee is required.

☐ Per 37 CFR §1.27, ☐ Applicant is small entity ☐ Applicant is micro entity.

☐ An extension fee in an amount of $_____ for a _____-month extension of time under 37 CFR § 1.136(a).

☐ A petition or processing fee in an amount of $_____ under 37 CFR § 1.1_____(_____).

☐ An additional filing fee has been calculated as shown below:

					Fee		Small Entity Fee		Micro Entity Fee	
	Claims Remaining After Amendment		Highest No. Previously Paid	Present Extra	Rate	Add'l Fee	Rate	Add'l Fee	Rate	Add'l Fee
Total		Minus			x $100 =	$	x $ 50 =	$	x $25 =	$
Independent		Minus			x $460 =	$	x $230 =	$	x $115 =	$
First Presentation of Multiple Dep. Claim					+ $820 =	$	+ $410 =	$	+ $205 =	$
					Total	$	Total	$	Total	$

Fee payment:

☐ Please charge Deposit Account No. 50-4184 in the amount of $_____ for _____.

☐ Payment by credit card in the amount of $_____ (Form PTO-2038 is attached).
WARNING: Information on this form may become public. **Credit card information should not be included on this form.**

☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 50-4184.

Respectfully submitted,

September 28, 2018
Date

/Scott W. Brim/
Scott W. Brim (Reg. No. 51,500)

BRINKS GILSON & LIONE
NBC Tower – Suite 3600, 455 N. Cityfront Plaza Drive, Chicago, IL 60611-5599

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/025,701	07/02/2018	Charles Lee Oakes III	US-0152.09 (14538-649)

CONFIRMATION NO. 8845

16530
BGL
P.O. Box 10395
Chicago, IL 60611

IMPROPER CFR REQUEST

OC000000102381906

Date Mailed: 09/17/2018

RESPONSE TO REQUEST FOR CORRECTED FILING RECEIPT

Power of Attorney, Claims, Fees, System Limitations, and Miscellaneous

In response to your request for a corrected Filing Receipt, the Office is unable to comply with your request because:

- The ADS submitted on _07/27/2018_ was not properly marked up to show the desired changes. For information being changed relative to the information already of record, additions must be shown with underlining, and deletions must be shown with strike-through or brackets. See 37 CFR 1.76(c)(2).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/ggasgedom/

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/025,701	07/02/2018	Charles Lee Oakes III	US-0152.09 (14538-649)	8845

16530 7590 08/21/2018

BGL
P.O. Box 10395
Chicago, IL 60611

EXAMINER	
OYEBISI, OJO O	

ART UNIT	PAPER NUMBER
3697	

MAIL DATE	DELIVERY MODE
08/21/2018	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	**Application No.** 16/025,701	**Applicant(s)** Oakes et al.	
	Examiner OJO O OYEBISI	**Art Unit** 3697	**AIA Status** Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 08/06/18.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 25-54 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 25-54 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 25-54 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Subject Matter Eligibility Standard

3. When considering subject matter eligibility under 35 U.S.C. 101, it must be determined whether the claim is directed to one of the four statutory categories of invention, i.e., process, machine, manufacture, or composition of matter. If the claim does fall within one of the statutory categories, it must then be determined whether the claim is directed to a judicial exception (i.e., law of nature, natural phenomenon, and abstract idea), and if so, it must additionally be determined whether the claim is a patent-eligible application of the exception. If an abstract idea is present in the claim, any element or combination of elements in the claim must be sufficient to ensure that the claim amounts to significantly more than the abstract idea itself. Examples of abstract ideas include fundamental economic practices; certain methods of

organizing human activities; an idea itself; and mathematical relationships/formulas. *Alice Corporation Pty. Ltd. v. CLS Bank International, et al.*, 573 U.S. ____ (2014).

Analysis

4. The examiner contends that, under Alice, to determine the patent-eligibility of an application, a two- part analysis has to be conducted.

Part 1:

(1) Determine if the claims are directed to an abstract idea or one of the judicial exceptions. Examples of abstract ideas referenced in Alice Corp. include:

1. Fundamental economic practices

2. Certain methods of organizing human activities

3. An idea of itself

4. Mathematical relationships/formulas

Part 2: (2) Determine whether any element or a combination of element amount significantly more than the abstract idea itself.

I. In the first analysis, using claim 53 as the representative claim, it is found that the claim is indeed directed to an abstract idea of processing check image. Processing check image is a fundamental economic practice; and as a result, claim 53 includes an abstract idea. The limitations in the claim that set forth the abstract idea are: "a method for receiving data; processing data, capturing data; presenting image and transmitting image." The examiner contends that the recited steps describe the concept of processing check image, which corresponds to concepts identified as abstract ideas by the courts, such as processing information

through a clearinghouse in Dealertrack; and as a result, claim 53 includes an abstract idea.

There are no improvements to the technical field or the technology, nor are there improvements to the computer system itself. Consequently the claim is not patent eligible. However, in the second analysis, it is found that the claimed elements do not sufficiently transform the judicial exception into a patent-eligible invention. The examiner contends that the recited "computer system" is recited to simply perform the computer functions of generating, receiving, analyzing, sorting, storing, calculating and transmitting information (i.e., That is, the computer processor is provided to process certain instructions or data; input from the user is received to provide an indication of a first consideration to be applied in the process and to indicate an expression of interest by the user in certain types of the descriptive material; a particular display of information is presented based upon the first consideration and the indication of expressed interest received; and a provision is made to allow the user to complete an instance or session of the process). Thus, taken alone, the additional elements do not amount to significantly more than the above-identified judicial exception (the abstract idea). Looking at the limitations as an ordered combination of elements add nothing that is not already present when looking at the elements taken individually. There is no indication that the combination of the elements improves the functioning of a computer or improves any other technology. Accordingly, the examiner concludes that there are no meaningful limitations in the claim that transform the judicial exception into a patent eligible application such that the claim amounts to significantly more than the judicial exception itself. Note: The analysis above applies to all statutory categories of invention. As such, the independent claims otherwise styled as a computer-readable medium

encoded to perform specific tasks, machine or manufacture, for example, would be subject to the same analysis. Furthermore, the limitations in the dependent claims are thus subject to the same analysis as in claim 1 and are rejected using the same rationale as in claim 1 above.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

   A person shall be entitled to a patent unless –

   (a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale or otherwise available to the public before the effective filing date of the claimed invention.

6. Claim(s) 25-54 are rejected under 35 U.S.C. 102(a)(1) as being anticipated Stinson et al Viera et al (Viera hereinafter, US Pub: 2014/0112571).

Re claim 25. Viera discloses a system comprising: a computer system configured to receive a copy of a captured image of a check and for processing the check by mobile check deposit in a bank and update a balance of an account based on an amount depicted in the check (see paras 0040, 0044); wherein the copy of the captured image is transmitted from a user's computing device configured to execute instructions of a downloadable program stored on a machine-readable medium, the instructions configured to, when executed, cause a processor of the user's computing device to: instruct the user to capture the image of the check; use a display screen of the user's computing device to assist the user in having a digital camera capture the image of the check (see paras 0039 and 0040); assist the user as to an orientation for capturing the image of the check; present the image of the check to the user after the image is

captured; and use a wireless network to transmit the copy of the captured image over a wireless communication link from the user's computing device and to the computer system (see paras 0040).

Re claim 26. Viera further discloses the system of claim 25, wherein the system is configured to confirm that the mobile check deposit can go forward after optical character recognition is performed on the check depicted in the captured image (see paras 0005, 0051).

Re claim 27. Viera discloses the system of claim 26, wherein the system is configured to initiate the mobile deposit after confirming the mobile check deposit (see paras 0038, 0040).

Re claim 28. Viera discloses the system of claim 26, wherein the optical character recognition includes determining an amount of the check and comparing the determined amount to an amount indicated by a user input (see paras 0069 and 0074).

Re claim 29. Viera further discloses the system of claim 26, wherein the optical character recognition includes reading a MICR line included in the image of the check (see paras 0005).

Re claim 30. Viera further discloses the system of claim 26, wherein the system is configured to confirm that the mobile check deposit can go forward after duplicate detection is performed on the check (see paras 0034).

Re claim 31. Viera further discloses the system of claim 25, wherein displayed instructions include assistance for the user to have the digital camera capture an image of a front side of the check and capture an image of a back side of the check (see paras 0004).

Re claim 32. Viera further system of claim 31, wherein the system is configured to update the account after it is determined that some mark or signature is present in an endorsement location in the image of the back side of the check (see paras 0005).

Re claim 33. Viera further discloses the system of claim 25, wherein the digital camera is separate from the user's computing device (see paras 0004).

Re claim 34. Viera further discloses system of claim 25, wherein the user's computing device is a PDA (see paras 0039).

Re claim 35. Viera further system of claim 25, wherein the system is configured to convert the image of the check into a bi-tonal TIFF (see paras 0058).

Re claim 36. Viera further discloses the system of claim 25, wherein the wireless network is a cellular network (see paras 0038).

Re claim 37. Viera further discloses system of claim 25, wherein the user's computing device further includes camera software that controls the digital camera, the camera software being separate from the downloadable program, the downloadable program at least partially controlling the camera software (see paras 0046).

Re claim 38. Viera further discloses the system of claim 25, wherein the downloadable program manages capturing the image of the check (see paras 0036).

Re paras 39. Viera further discloses the system of claim 25, wherein the downloadable program instructs the user to place the check in front of the digital camera before capturing the image of the check (see paras 0004).

Re claim 40. Viera further discloses the system of claim 25, wherein the downloadable program further causes the user's computing device to:

receive input from the user indicating an amount of the check (see paras 0051).

Re claim 41. Viera further discloses the system of claim 40, wherein the instructions are displayed after receiving the input from the user (see paras 0058).

Re claim 42. Viera further discloses the system of claim 25, wherein the copy of the captured image is transmitted after the user is authenticated (see paras 0061).

Re claim 43. Viera further discloses system of claim 25, wherein the computer system is configured to generate a log file for the mobile check deposit (see the abstract).

Re claim 44. Viera further discloses system of claim 43, wherein the log file includes an image of the check processed for mobile check deposit (see the abstract).

Re claim 45. Viera further discloses the system of claim 44, wherein the image is a bi-tonal TIFF (see paras 0058).

Re claim 46. Viera further discloses system of claim 25, wherein the copy of the captured image is a modified version of the image of the check (see paras 0033).

Re claim 47. Viera further discloses system of claim 46, wherein the copy of the captured image is in a different format than the image of the check (see paras 0050).

Re claim 48. Viera further discloses the system of claim 25, further comprising a third-party vendor computer (see paras 0040).

Re claim 49. Claim 49 recites similar limitations as claim 25 and thus rejected using the same art and rationale as in claim 25 above.

Re claim 51. Viera further discloses the system of claim 49, wherein the user's computing device is a PDA (see paas 0039).

Re claim 52. Viera system of claim 49, wherein the biometric measurement is representative of a fingerprint (see paras 0040).

Re claim 53. Claim 53 recites similar limitations as claim 25 and thus rejected using the same art and rationale as in claim 25 above.

Re claim 54. Viera further discloses method for allowing a user to deposit a check using the user's computing device, the method comprising:

receiving, by a computer system, a copy of a captured image of a check (see paras 0040, 0044); and for processing, by the computer system, the check for mobile check deposit in a bank and updating a balance of an account based on an amount depicted

in the check (see paras 0043); wherein the copy of the captured image is transmitted from a user's computing device configured to implement the following method: authenticating a user based on a biometric measurement obtained corresponding to the user (see paras 0040); instructing the user to capture an image of a check; using a display screen of the user's computing device to assist the user in capturing the image of the check; and using a wireless network to transmit a copy of the captured image from the user's computing device to the computer system (see paras 0040).

Conclusion

A prior art of record, Frew (US Pub: 2012/0177281), cited but not relied upon is pertinent to the claimed subject matter the following way: the invention relate to financial transactions and, more particularly, verification of the validity of a check on a mobile communication device (see paras 0001). Any inquiry concerning this communication or earlier communications from the examiner should be directed to OJO O OYEBISI whose telephone number is (571)272-8298. The examiner can normally be reached on Monday-Friday, 9am-7pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ryan D Donlon can be reached on 517-270-3602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/OJO O OYEBISI/
Primary Examiner, Art Unit 3697

Notice of References Cited	Application/Control No. 16/025,701	Applicant(s)/Patent Under Reexamination	
	Examiner OJO O OYEBISI	Art Unit 3697	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20140112571-A1	04-2014	Viera; Edward	G06Q40/12	382/138
*	B	US-20120177281-A1	07-2012	Frew; David Todd	G06Q30/0609	382/137
	C					
	D					
	E					
	F					
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	J					
	K					
	L					
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FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/025,701	Oakes et al.
	Examiner	Art Unit
	OJO O OYEBISI	3697

CPC - Searched*		
Symbol	Date	Examiner
G06Q 40/00	08/14/2018	O.O.O

CPC Combination Sets - Searched*		
Symbol	Date	Examiner
G06Q20/108; G06Q20/10; G06Q20/042; G06Q20/4014	08/14/2018	O.O.O

US Classification - Searched*			
Class	Subclass	Date	Examiner
705	45	08/14/2018	O.O.O

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
EAST TEXT SEARCH	08/14/2018	O.O.O
CLASSIFICATION SEARCH	08/14/2018	O.O.O
CPC SEARCH	08/14/2018	O.O.O

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/OJO O OYEBISI/ Primary Examiner, Art Unit 3697	

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	44547	optical near character near recognition	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/14 23:03
L3	40	present$3 near image near check and 2	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/14 23:04
L4	21794	authenticat$5 same biometric near (data information)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/14 23:05
L5	689	2 and 4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/14 23:05
L6	13	3 and 5	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/14 23:05
L7	1	display$3 near captured near check near image	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/14 23:06
L8	15	transmit$4 same copy same captured same check near image	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/08/14 23:11
L9	16	bi-tonal near tiff	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/08/14 23:11
L10	1223	duplicate same detection same check	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/08/14 23:12
L12	99	mobile near check near deposit	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/08/14 23:13
L13	1289	confirm$3 same check same deposit	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/08/14 23:13
L14	7	5 and 13	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/08/14 23:13
L15	1170	705/45.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/08/14 23:14
L16	17892	705/35.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/08/14 23:14
S1	706	check near image near processing	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/08/14 13:51
S2	40	stinson and check near image near processing	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2018/08/14 13:55

			DERWENT; IBM_TDB			
S3	1	("6695204").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/08/14 14:08
S4	609	captur$3 same image same check same wireless	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/14 16:04
S5	40	captur$3 near image near check same wireless	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/08/14 16:04

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/025,701	07/02/2018	Charles Lee Oakes III	US-0152.09 (14538-649)	8845

16530 7590 08/06/2018

BGL
P.O. Box 10395
Chicago, ILLINOIS 60611
UNITED STATES OF AMERICA

EXAMINER	
ART UNIT	PAPER NUMBER
3693	
MAIL DATE	DELIVERY MODE
08/06/2018	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Decision Granting Request for Prioritized Examination (Track I)	**Application No.** 16/025,701	**Applicant(s)** Oakes et al.	
	Examiner JoAnne Burke	**Art Unit** OPET	**AIA (First Inventor to File) Status** Yes

1. THE REQUEST FILED 02 July 2018 IS **GRANTED** .

The above-identified application has met the requirements for prioritized examination

A. ☑ for an original nonprovisional application (Track I).
B. ☐ for an application undergoing continued examination (RCE).

2. **The above-identified application will undergo prioritized examination**. The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:

A. filing a **petition for extension of time** to extend the time period for filing a reply;

B. filing an **amendment to amend the application to contain more than four independent claims, more than thirty total claims** , or a multiple dependent claim;

C. filing a **request for continued examination** ;

D. filing a notice of appeal;

E. filing a request for suspension of action;

F. mailing of a notice of allowance;

G. mailing of a final Office action;

H. completion of examination as defined in 37 CFR 41.102; or

I. abandonment of the application.

Telephone inquiries with regard to this decision should be directed to JoAnne Burke at (571)272-4584. In his/her absence, calls may be directed to Petition Help Desk at (571) 272-3282.

/JOANNE L BURKE/ Paralegal Specialist, OPET	

U.S. Patent and Trademark Office
PTO-2298 (Rev. 02-2012)

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: July 27, 2018 Name: Peter S. Lee (Reg. No.64,728) Signature: /Peter S. Lee/

BRINKS GILSON & LIONE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Charles Lee Oakes	
Serial No.: 16/025,701	Examiner: To be assigned
Filing Date: July 2, 2018	Group Art Unit: 3693
For: DIGITAL CAMERA PROCESSING SYSTEM	Confirmation No.: 8845

CORRECTED APPLICATION DATA SHEET

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant is filing a Corrected Application Data Sheet (ADS) to correct the ADS filed with the application on July 2, 2018. The corrections provided in the present Corrected ADS updates the chain of priority under 35 U.S.C. 120 identified in the Domestic Benefit/National Stage Information section. Specifically, the Corrected ADS further includes identification that U.S. Patent Application No. 15/663,284 (issued as U.S. Patent No. 10,013,605 on July 3, 2018) is a continuation of U.S. Patent Application No. 14/225,090 (filed on March 25, 2014). This claim to priority under 35 U.S.C. 120 is being made within the time period identified in 37 C.F.R. 1.78. The Corrected ADS further includes identification of the present application as Application Number 16025701, which was not available at the time of filing the original ADS on July 2, 2018.

Applicant requests issuance of an Official Filing Receipt for the above-captioned patent application US 16/025,701 that reflects the full claims to priority included in the Corrected ADS.

Applicant notes that U.S. Patent Application No. 14/225,090 and U.S. Patent Application No. 15/663,284 were both still pending at the time of filing the above-captioned patent application US 16/025,701, on July 2, 2018.

Applicant believes no fees are due with this submission. If necessary, however, the Commissioner is hereby authorized to charge any fees required, or to credit any overpayments, to Deposit Account No. 50-4184.

Respectfully submitted,

July 27, 2018
Date

/Peter S. Lee/
Peter S. Lee Reg. No. 64,728
Attorney for Applicant(s)

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

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CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

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Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	State/Province	TX	Country of Residence	US

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Mailing Address of Inventor:

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Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

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Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	**State/Province**	TX	**Country of Residence**	US

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Postal Code	78260	**Country**	US

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Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	**State/Province**	TX	**Country of Residence**	US

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Mailing Address of Inventor:			
Address 1	12503 Bear Trail		
Address 2			
City	San Antonio	State/Province	TX
Postal Code	78249	Country i	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	16530		
Email Address	officeactions@brinksgilson.com	Add Email	Remove Email

Application Information:

Title of the Invention	DIGITAL CAMERA PROCESSING SYSTEM		
Attorney Docket Number	US-0152.09 (14538-649)	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	6	Suggested Figure for Publication (if any)	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☒ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	(●) Customer Number	( ) US Patent Practitioner	( ) Limited Recognition (37 CFR 11.9)
Customer Number	16530		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Patented ~~Pending~~	Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16025701 ~~TBA~~	Continuation of	15663284	2017-07-28	10013605	2018-07-03

Prior Application Status	Pending	Remove

Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
16025701 ~~TBA~~	Continuation of	14225090	2014-03-25

Prior Application Status	Patented	Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14225090	Continuation of	11590974	2006-10-31	8708227	2014-04-29

Prior Application Status	Pending	Remove

Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
15663284	Continuation of	14225090	2014-03-25

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◉ Assignee	○ Legal Representative under 35 U.S.C. 117	○ Joint Inventor
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name	United Services Automobile Association (USAA)

Mailing Address Information For Applicant:

Address 1	Reciprocal Interinsurance Exchange in the State of Texas		
Address 2	9800 Fredericksburg Road		
City	San Antonio	**State/Province**	TX
Country	US	Postal Code	78288
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Peter S. Lee/			Date (YYYY-MM-DD)	2018-07-27
First Name	Peter	Last Name	Lee	Registration Number	64,728

Additional Signature may be generated within this form by selecting the Add button.

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
16/025,701	07/02/2018	3693	3180	US-0152.09 (14538-649)	30	4

CONFIRMATION NO. 8845

16530
BGL
P.O. Box 10395
Chicago, IL 60611

FILING RECEIPT

OC000000101089783

Date Mailed: 07/20/2018

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Charles Lee Oakes III, San Antonio, TX;
Randy Ray Morlen, San Antonio, TX;
Michael Frank Morris, San Antonio, TX;
Reynaldo Medina III, San Antonio, TX;
Greg Alan Harpel, San Antonio, CA;
Gabriel Glenn Gavia, San Antonio, TX;
Bharat Prasad, San Antonio, TX;
Frank Kyle Major, San Antonio, TX;
Jeffrey Neal Pollack, San Antonio, TX;

Applicant(s)

United Services Automobile Association (USAA), San Antonio, TX;

Assignment For Published Patent Application

United Services Automobile Association (USAA)

Power of Attorney: The patent practitioners associated with Customer Number 16530

Domestic Applications for which benefit is claimed - None.
A proper domestic benefit claim must be provided in an Application Data Sheet in order to constitute a claim for domestic benefit. See 37 CFR 1.76 and 1.78.

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

This application is a CON of 15/663,284 07/28/2017 PAT 10013605
and is a CON of 14/225,090 03/25/2014
which is a CON of 11/590,974 10/31/2006 PAT 8708227
and said 15/663,284 07/28/2017
is a CON of 14/225,090 03/25/2014

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 07/18/2018

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/025,701**

Projected Publication Date: Request for Non-Publication Acknowledged

Non-Publication Request: Yes

Early Publication Request: No

Title

DIGITAL CAMERA PROCESSING SYSTEM

Preliminary Class

705

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor

community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

Electronic Acknowledgement Receipt	
EFS ID:	33307502
Application Number:	16025701
International Application Number:	
Confirmation Number:	8845
Title of Invention:	DIGITAL CAMERA PROCESSING SYSTEM
First Named Inventor/Applicant Name:	Charles Lee Oakes
Customer Number:	16530
Filer:	Peter S. Lee/Elvia salazar
Filer Authorized By:	Peter S. Lee
Attorney Docket Number:	US-0152.09 (14538-649)
Receipt Date:	27-JUL-2018
Filing Date:	02-JUL-2018
Time Stamp:	16:47:35
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	14538-649_Transmittal.pdf	120432 54e6ebf18c7d8d7ac6098207c4eedda13952005f	no	1

Warnings:

Information:					
2	Miscellaneous Incoming Letter	14538-649_Corrected_Application_Data_Sheet.pdf	109295 86c4de7f64419b8bd7173583d4dace8978e28cb9	no	2
Warnings:					
Information:					
3	Application Data Sheet	14538-649_Corrected_ADS.pdf	171638 81cf1ba05dee7646cd280dfa51f1211ace491a73	no	10
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
4	Miscellaneous Incoming Letter	14538-649_Marked_Up_Filing_Receipt.pdf	4276648 a0b103e07964a52da7a5dbb2c1aad5e6f5fed94a	no	4
Warnings:					
Information:					
		Total Files Size (in bytes):	4678013		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: July 27, 2018 Name: Peter S. Lee (Reg. No. 64,728) Signature: /Peter S. Lee/



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. of:	Charles Lee Oakes		
Appln. No.:	16/025,701	Examiner:	To be assigned
Filed:	July 2, 2018	Art Unit:	3693
For:	DIGITAL CAMERA PROCESSING SYSTEM	Conf. No.:	8845
Attorney Docket No.:	US-0152.09 (14538-649)		

TRANSMITTAL

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Attached is/are:

☒ Letter for a Corrected Application Data Sheet; Corrected Application Data Sheet (Form PTO/AIA/14); and Marked Up Filing Receipt.

Fee calculation:

☒ No additional fee is required.

☐ Per 37 CFR §1.27, ☐ Applicant is small entity ☐ Applicant is micro entity.

☐ An extension fee in an amount of $_____ for a _____-month extension of time under 37 CFR § 1.136(a).

☐ A petition or processing fee in an amount of $_____ under 37 CFR § 1.1_____(_____).

☐ An additional filing fee has been calculated as shown below:

					Fee		Small Entity Fee		Micro Entity Fee	
	Claims Remaining After Amendment		Highest No. Previously Paid	Present Extra	Rate	Add'l Fee	Rate	Add'l Fee	Rate	Add'l Fee
Total		Minus			x $100 =	$	x $ 50 =	$	x $25 =	$
Independent		Minus			x $460 =	$	x $230 =	$	x $115 =	$
First Presentation of Multiple Dep. Claim					+ $820 =	$	+ $410 =	$	+ $205 =	$
					Total	$	Total	$	Total	$

Fee payment:

☐ Please charge Deposit Account No. 50-4184 in the amount of $_____ for _____.

☐ Payment by credit card in the amount of $_____ (Form PTO-2038 is attached).
WARNING: Information on this form may become public. **Credit card information should not be included on this form.**

☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 50-4184.

Respectfully submitted,

July 27, 2018
Date

/Peter S. Lee/
Peter S. Lee (Reg. No. 64,728)

BRINKS GILSON & LIONE
NBC Tower – Suite 3600, 455 N. Cityfront Plaza Drive, Chicago, IL 60611-5599

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 16/025,701

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	300
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	660
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	760
TOTAL CLAIMS (37 CFR 1.16(i))	30 minus 20 =	* 10			OR	x 100 =	1000
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4 minus 3 =	* 1				x 460 =	460
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	3180

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)	OR	RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
16/025,701	07/02/2018	3693	3180	US-0152.09 (14538-649)	30	4

CONFIRMATION NO. 8845

16530
BGL
P.O. Box 10395
Chicago, IL 60611

FILING RECEIPT

OC000000101089783

Date Mailed: 07/20/2018

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Charles Lee Oakes III, San Antonio, TX;
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Applicant(s)

United Services Automobile Association (USAA), San Antonio, TX;

Assignment For Published Patent Application

United Services Automobile Association (USAA)

Power of Attorney: The patent practitioners associated with Customer Number 16530

Domestic Applications for which benefit is claimed - None.
A proper domestic benefit claim must be provided in an Application Data Sheet in order to constitute a claim for domestic benefit. See 37 CFR 1.76 and 1.78.

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 07/18/2018

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/025,701**

Projected Publication Date: Request for Non-Publication Acknowledged

Non-Publication Request: Yes

Early Publication Request: No

Title

DIGITAL CAMERA PROCESSING SYSTEM

Preliminary Class

705

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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UNITED STATES PATENT AND TRADEMARK OFFICE

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Alexandria, Virginia 22313-1450
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/025,701	07/02/2018	Charles Lee Oakes III	US-0152.09 (14538-649)

CONFIRMATION NO. 8845

16530
BGL
P.O. Box 10395
Chicago, IL 60611

IMPROPER CFR REQUEST

OC000000101089893

Date Mailed: 07/20/2018

RESPONSE TO REQUEST FOR CORRECTED FILING RECEIPT

Continuity, Priority Claims, Petitions, and Non-Publication Requests

In response to your request for a corrected Filing Receipt, the Office is unable to comply with your request because:

- One or more of the benefit claims under 35 U.S.C. § 120 cannot be included on the Filing Receipt since applicant did not specify whether the application is a continuation, divisional or continuation-in-part of the prior application. Applicant must submit a new application data sheet (ADS) that sets forth the relationship, and the ADS must be accompanied by a petition under 37 CFR 1.78 if filed after the time period set forth in 37 CFR 1.78.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/hngo/

CERTIFICATE OF ELECTRONIC FILING
I hereby certify that this correspondence is being filed electronically with the U.S. Patent and Trademark Office on the below date: Date: July 11, 2018 Name: Peter S. Lee; Reg. No. 64,728 Signature: /Peter S. Lee/

Our Case No. US-0152.09 (14538-649)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Charles Lee Oakes Serial No.: 16/025,701 Filing Date: July 2, 2018 For: DIGITAL CAMERA PROCESSING SYSTEM	Examiner: To be assigned Group Art Unit: 3693 Confirmation No.: 8845

PRELIMINARY AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Prior to examining this application, please enter the following amendments and consider the following remarks:

Amendments to the Specification begin on page 2.

Amendments to the Claims begin on page 3.

Remarks begin on page 9.

AMENDMENTS TO THE SPECIFICATION

On page 1, before paragraph [0001] please insert the following new section and new paragraph [0001]:

CROSS-REFERENCE TO RELATED APPLICATION(S)

[0001] This application is a continuation of U.S. Patent Application No. 14/225,090, filed March 25, 2018, and U.S. Patent Application No. 15/663,284 (issued as U.S. Patent No. 10,013,605 on July 3, 2018), where U.S. Patent Application No. 15/663,284 is a continuation of U.S. Patent Application No. 14/225,090, and where U.S. Patent Application No. 14/225,090 is a continuation of U.S. Patent Application No. 11/590,974, filed October 31, 2006, the entirety of all of which are hereby incorporated by reference herein.

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application:

1-24. (Cancelled).

25. (New) A system comprising:

a computer system configured to receive a copy of a captured image of a check and for processing the check by mobile check deposit in a bank and update a balance of an account based on an amount depicted in the check;

wherein the copy of the captured image is transmitted from a user's computing device configured to execute instructions of a downloadable program stored on a machine-readable medium, the instructions configured to, when executed, cause a processor of the user's computing device to:

instruct the user to capture the image of the check;

use a display screen of the user's computing device to assist the user in having a digital camera capture the image of the check;

assist the user as to an orientation for capturing the image of the check;

present the image of the check to the user after the image is captured; and

use a wireless network to transmit the copy of the captured image over a wireless communication link from the user's computing device and to the computer system.

26. (New) The system of claim 25, wherein the system is configured to confirm that the mobile check deposit can go forward after optical character recognition is performed on the check depicted in the captured image.

27. (New) The system of claim 26, wherein the system is configured to initiate the mobile deposit after confirming the mobile check deposit.

28. (New) The system of claim 26, wherein the optical character recognition includes determining an amount of the check and comparing the determined amount to an amount indicated by a user input.

29. (New) The system of claim 26, wherein the optical character recognition includes reading a MICR line included in the image of the check.

30. (New) The system of claim 26, wherein the system is configured to confirm that the mobile check deposit can go forward after duplicate detection is performed on the check.

31. (New) The system of claim 25, wherein displayed instructions include assistance for the user to have the digital camera capture an image of a front side of the check and capture an image of a back side of the check.

32. (New) The system of claim 31, wherein the system is configured to update the account after it is determined that some mark or signature is present in an endorsement location in the image of the back side of the check.

33. (New) The system of claim 25, wherein the digital camera is separate from the user's computing device.

34. (New) The system of claim 25, wherein the user's computing device is a PDA.

35. (New) The system of claim 25, wherein the system is configured to convert the image of the check into a bi-tonal TIFF.

36. (New) The system of claim 25, wherein the wireless network is a cellular network.

37. (New) The system of claim 25, wherein the user's computing device further includes camera software that controls the digital camera, the camera software being separate from the downloadable program, the downloadable program at least partially controlling the camera software.

38. (New) The system of claim 25, wherein the downloadable program manages capturing the image of the check.

39. (New) The system of claim 25, wherein the downloadable program instructs the user to place the check in front of the digital camera before capturing the image of the check.

40. (New) The system of claim 25, wherein the downloadable program further causes the user's computing device to:

receive input from the user indicating an amount of the check.

41. (New) The system of claim 40, wherein the instructions are displayed after receiving the input from the user.

42. (New) The system of claim 25, wherein the copy of the captured image is transmitted after the user is authenticated.

43. (New) The system of claim 25, wherein the computer system is configured to generate a log file for the mobile check deposit.

44. (New) The system of claim 43, wherein the log file includes an image of the check processed for mobile check deposit.

45. (New) The system of claim 44, wherein the image is a bi-tonal TIFF.

46. (New) The system of claim 25, wherein the copy of the captured image is a modified version of the image of the check.

47. (New) The system of claim 46, wherein the copy of the captured image is in a different format than the image of the check.

48. (New) The system of claim 25, further comprising a third-party vendor computer.

49. (New) A system for allowing a user to deposit a check using the user's computing device, the system configured to authenticate the user using data representing a biometric measurement, the system including:

a computer system configured to receive a copy of a captured image of a check and for processing the check by mobile check deposit in a bank and update a balance of an account based on an amount depicted in the check;

wherein the copy of the captured image is transmitted from a user's computing device configured to execute instructions of a downloadable program stored on a machine-readable medium, the instructions configured to, when executed, cause a processor of the user's computing device to:

authenticate a user based on the biometric measurement obtained corresponding to the user;

instruct the user to capture an image of a check;

use a display screen of the user's computing device to assist the user in capturing the image of the check; and

use a wireless network to transmit a copy of the captured image from the user's computing device to the computer system.

50. (New) The system of claim 49, wherein a digital camera configured to capture the image of the check is separate from the user's computing device.

51. (New) The system of claim 49, wherein the user's computing device is a PDA.

52. (New) The system of claim 49, wherein the biometric measurement is representative of a fingerprint.

53. (New) A method comprising:

receiving, by a computer system, a copy of a captured image of a check; and

for processing, by the computer system, the check by mobile check deposit in a bank and updating a balance of an account based on an amount depicted in the check;

wherein the copy of the captured image is transmitted from a user's computing device configured to implement the following method:

instructing, through a user's computing device, the user to capture an image of a check;

using a display screen of the user's computing device to assist the user in having a digital camera capture the image of the check;

assisting the user as to an orientation for capturing the image of the check;

presenting the image of the check to the user after the image is captured; and

using a wireless network to transmit a copy of the captured image over a wireless communication link from the user's computing device and to the computer system.

54. (New) A method for allowing a user to deposit a check using the user's computing device, the method comprising:

receiving, by a computer system, a copy of a captured image of a check; and

for processing, by the computer system, the check for mobile check deposit in a bank and updating a balance of an account based on an amount depicted in the check;

wherein the copy of the captured image is transmitted from a user's computing device configured to implement the following method:

authenticating a user based on a biometric measurement obtained corresponding to the user;

instructing the user to capture an image of a check;

using a display screen of the user's computing device to assist the user in capturing the image of the check; and

using a wireless network to transmit a copy of the captured image from the user's computing device to the computer system.

REMARKS

A reference to the parent applications to which domestic priority is claimed has been added to the first line of the application as required by 37 C.F.R. §1.78. Claims 1-24 have been cancelled without prejudice or disclaimer, and claims 25-54 are new. Applicant submits that no new matter has been added.

Respectfully submitted,

/Peter S. Lee/

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P.O. BOX 10395
CHICAGO, ILLINOIS 60610
(312) 321-4200

Peter S. Lee
Registration No. 64,728
Attorney for Applicant

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: July 11, 2018 Name: Peter S. Lee (Reg. No.64,728) Signature: /Peter S. Lee/

BRINKS GILSON & LIONE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:

Charles Lee Oakes

Serial No.: 16/025,701

Filing Date: July 2, 2018

For: DIGITAL CAMERA PROCESSING SYSTEM

Examiner: To be assigned

Group Art Unit: 3693

Confirmation No.: 8845

CORRECTED APPLICATION DATA SHEET

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant is filing a Corrected Application Data Sheet (ADS) to add a claim to priority under 35 U.S.C. 120. This claim to priority under 35 U.S.C. 120 is being made within the time period identified in 37 C.F.R. 1.78. Specifically, the Corrected ADS further includes identification that U.S. Patent Application No. 15/663,284 (issued as U.S. Patent No. 10,013,605 on July 3, 2018) is a continuation of U.S. Patent Application No. 14/225,090.

Applicant requests issuance of an Official Filing Receipt for the above-captioned patent application US 16/025,701 that reflects the full claims to priority included in the Corrected ADS.

Applicant notes that U.S. Patent Application No. 14/225,090 and U.S. Patent Application No. 15/663,284 were both still pending at the time of filing US 16/025,701, on July 2, 2018.

Applicant believes no fees are due with this submission. If necessary, however, the Commissioner is hereby authorized to charge any fees required, or to credit any overpayments, to Deposit Account No. 50-4184.

Respectfully submitted,

July 11, 2018
Date

/Peter S. Lee/
Peter S. Lee Reg. No. 64,728
Attorney for Applicant(s)

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
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Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

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Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
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Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

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Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Michael	Frank	Morris	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

CORRECTED APPLICATION DATA SHEET

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

City	San Antonio	State/Province	TX	Country of Residence	US

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Inventor 4 Remove

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	Reynaldo		Medina	III

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

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Postal Code	78254	Country i	US

Inventor 5 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Greg	Alan	Harpel	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	State/Province	TX	Country of Residence	US

Mailing Address of Inventor:

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Postal Code	78231	Country i	US

Inventor 6 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Gabriel	Glenn	Gavia	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	State/Province	TX	Country of Residence	US

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Mailing Address of Inventor:

Address 1	8810 Toulouse		
Address 2			
City	San Antonio	**State/Province**	TX
Postal Code	78240	**Country**	US

Inventor 7 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Bharat		Prasad	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	**State/Province**	TX	**Country of Residence**	US

Mailing Address of Inventor:

Address 1	114 Sable Heights		
Address 2			
City	San Antonio	**State/Province**	TX
Postal Code	78258	**Country**	US

Inventor 8 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Frank	Kyle	Major	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	**State/Province**	TX	**Country of Residence**	US

Mailing Address of Inventor:

Address 1	25135 Callaway		
Address 2			
City	San Antonio	**State/Province**	TX
Postal Code	78260	**Country**	US

Inventor 9 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Jeffrey	Neal	Pollack	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	**State/Province**	TX	**Country of Residence**	US

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Mailing Address of Inventor:			
Address 1	12503 Bear Trail		
Address 2			
City	San Antonio	State/Province	TX
Postal Code	78249	Country i	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	16530		
Email Address	officeactions@brinksgilson.com	Add Email	Remove Email

Application Information:

Title of the Invention	DIGITAL CAMERA PROCESSING SYSTEM		
Attorney Docket Number	US-0152.09 (14538-649)	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	6	Suggested Figure for Publication (if any)	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☒ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	(●) Customer Number	( ) US Patent Practitioner	( ) Limited Recognition (37 CFR 11.9)
Customer Number	16530		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Patented ~~Pending~~	Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16025679 ~~TBA~~	Continuation of	15663284	2017-07-28	10013605	2018-07-03

Prior Application Status	Pending	Remove

Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
16025679 ~~TBA~~	Continuation of	14225090	2014-03-25

Prior Application Status	Patented	Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14225090	Continuation of	11590974	2006-10-31	8708227	2014-04-29

Prior Application Status	Pending	Remove

Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
15663284	Continuation of	14225090	2014-03-25

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◉ Assignee	○ Legal Representative under 35 U.S.C. 117	○ Joint Inventor
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name	United Services Automobile Association (USAA)

Mailing Address Information For Applicant:

Address 1	Reciprocal Interinsurance Exchange in the State of Texas		
Address 2	9800 Fredericksburg Road		
City	San Antonio	**State/Province**	TX
Country	US	Postal Code	78288
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

CORRECTED APPLICATION DATA SHEET

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Peter S. Lee/			Date (YYYY-MM-DD)	2018-07-11
First Name	Peter	Last Name	Lee	Registration Number	64,728

Additional Signature may be generated within this form by selecting the Add button.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	16/025,701
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: July 11, 2018 Name: Peter S. Lee (Reg. No. 64,728) Signature: /Peter S. Lee/



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. of:	Charles Lee Oakes		
Appln. No.:	16/025,701	Examiner:	To be assigned
Filed:	July 2, 2018	Art Unit:	3693
For:	DIGITAL CAMERA PROCESSING SYSTEM	Conf. No.:	8845
Attorney Docket No.:	US-0152.09 (14538-649)		

TRANSMITTAL

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Attached is/are:

☒ Preliminary Amendment, Letter for a Corrected Application Data Sheet and Corrected Application Data Sheet (Form PTO/AIA/14).

Fee calculation:

☐ No additional fee is required.

☐ Per 37 CFR §1.27, ☐ Applicant is small entity ☐ Applicant is micro entity.

☐ An extension fee in an amount of $_____ for a _____-month extension of time under 37 CFR § 1.136(a).

☐ A petition or processing fee in an amount of $_____ under 37 CFR § 1.1_____(_____).

☒ An additional filing fee has been calculated as shown below:

					Fee		Small Entity Fee		Micro Entity Fee	
	Claims Remaining After Amendment		Highest No. Previously Paid	Present Extra	Rate	Add'l Fee	Rate	Add'l Fee	Rate	Add'l Fee
Total	30	Minus	24	6	x $100 =	$600	x $ 50 =	$	x $25 =	$
Independent	4	Minus	3	1	x $460 =	$460	x $230 =	$	x $115 =	$
First Presentation of Multiple Dep. Claim					+ $820 =	$	+ $410 =	$	+ $205 =	$
					Total	$1,060	Total	$	Total	$

Fee payment:

☒ Please charge Deposit Account No. 50-4184 in the amount of $1,060 for Six Additional Claims and One Additional Independent Claim.

☐ Payment by credit card in the amount of $_____ (Form PTO-2038 is attached).
WARNING: Information on this form may become public. **Credit card information should not be included on this form.**

☒ The Director is hereby authorized to charge payment of any additional filing fees required under 37 CFR § 1.16 and any patent application processing fees under 37 CFR § 1.17 (including any extension fee required to ensure that this paper is timely filed), or to credit any overpayment, to Deposit Account No. 50-4184.

Respectfully submitted,

July 11, 2018
Date

/Peter S. Lee/
Peter S. Lee (Reg. No. 64,728)

BRINKS GILSON & LIONE
NBC Tower – Suite 3600, 455 N. Cityfront Plaza Drive, Chicago, IL 60611-5599

Electronic Patent Application Fee Transmittal

Application Number:	16025701
Filing Date:	
Title of Invention:	DIGITAL CAMERA PROCESSING SYSTEM
First Named Inventor/Applicant Name:	Charles Lee Oakes
Filer:	Peter S. Lee
Attorney Docket Number:	US-0152.09 (14538-649)

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	1202	6	100	600
INDEPENDENT CLAIMS IN EXCESS OF 3	1201	1	460	460
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1060**

Electronic Acknowledgement Receipt	
EFS ID:	33145164
Application Number:	16025701
International Application Number:	
Confirmation Number:	8845
Title of Invention:	DIGITAL CAMERA PROCESSING SYSTEM
First Named Inventor/Applicant Name:	Charles Lee Oakes
Customer Number:	16530
Filer:	Peter S. Lee/elvia salazar
Filer Authorized By:	Peter S. Lee
Attorney Docket Number:	US-0152.09 (14538-649)
Receipt Date:	11-JUL-2018
Filing Date:	
Time Stamp:	17:55:32
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$1060
RAM confirmation Number	071218INTEFSW00004736504184
Deposit Account	504184
Authorized User	Peter Lee
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Preliminary Amendment	14538-649_Preliminary_Amendment.pdf	98037 e216eb6a8a0a1dad2678480d063bed4f57b f1f68	no	9
Warnings:					
Information:					
2	Miscellaneous Incoming Letter	14538-649_Corrected_Application_Data_Sheet.pdf	108775 2aef56f039e5d2eec137b53df8d0b242a6f5 3c3d	no	2
Warnings:					
Information:					
3	Application Data Sheet	14538-649_Corrected_ADS.pdf	168092 4c55a622974774e501962c9081c275ae218 10735	no	10
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
4	Transmittal Letter	14538-649_Transmittal.pdf	120501 a6c5e0a3d3816a3e9409ab932f78c5e3f775 71f0	no	1
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	31588 62e3d3489d0433c53d0e7b26f0908e11f5d 4dda2	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	526993		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

CERTIFICATE OF EFS FILING UNDER 37 CFR §1.8

I hereby certify that this correspondence is being electronically transmitted to the United States Patent and Trademark Office, Commissioner for Patents, via the EFS pursuant to 37 CFR §1.8 on the below date:

Date: July 2, 2018 Name: Peter S. Lee (Reg. No. 64,728) Signature: /Peter S. Lee/

BRINKS GILSON & LIONE INTELLECTUAL PROPERTY LAW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Appln. of: Charles Lee Oakes III, et al.

For: DIGITAL CAMERA PROCESSING SYSTEM

Attorney Docket No.: US-0152.09 (14538-649)

UTILITY PATENT APPLICATION TRANSMITTAL

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

1. TRANSMITTED HEREWITH: New application under 37 CFR §1.53(b), which is a:
   - ☒ Continuation,
   - ☐ Divisional, or
   - ☐ Continuation-in-Part (CIP)

   Under 37 CFR §1.53(b) of prior application no. 15/663,284.

   Prior application information: Examiner: _____ Art Unit: _____

   - ☐ Maintenance of copendency of prior application: A request for extension of time and the appropriate fee have been filed in the pending prior application (or are being filed in the prior application concurrently herewith) to extend the period for response until _____.
   - ☐ Certified copy of priority document(s) has been filed in prior application no. _____.

   For Continuation or Divisional Applications only: The entire disclosure of the prior application, from which an oath or declaration is supplied as indicated below, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference.

2. ATTACHMENTS: The following application elements and other papers are attached:
   - ☒ Application Data Sheet. See 37 CFR § 1.76.
   - ☐ Title page
   - ☒ Specification, including claims and Abstract (25 pages)
   - ☒ Drawings (6 sheet(s))
   - ☐ Appendices: _____
   - ☒ Declaration:
     - ☐ newly-executed (original or copy)
     - ☒ copy from a prior application that was filed on or after September 16, 2012 (37 CFR §1.63(d))
   - ☐ English Translation Document:
     - ☐ is attached or ☐ has been filed in prior application no. _____.
   - ☐ Preliminary Amendment (Note: If a priority application was filed before March 16, 2013, consider whether this Preliminary Amendment should be filed after the application filing. Related application data required under 37 CFR §1.78, if any, appears in the Amendments to the Specification section of the Preliminary Amendment, including incorporations by reference.)
   - ☐ Petition to Suspend Prosecution for the Time Necessary to File an Amendment (New Application Filed Concurrently).
   - ☒ Power of Attorney (1 pages; ☐ by inventor ☒ by Assignee).
     - ☒ A new power has been executed and is attached.
     - ☐ The power appears in the original papers in the prior application.
     - ☐ The power doesn't appear in the original papers in the prior application, but was filed on _____.
     - ☐ The power of attorney in the prior application is to: Customer No. _____ or to _____ (Reg. No. _____).

☒ Assignment to: United Services Automobile Association (USAA):

☒ was previously recorded on March 15, 2018 at Reel 045242, Frame 0420.

☐ Information Disclosure Statement (_____ pages) and copies of references cited, if required.

☒ Nonpublication Request under 35 USC §122(b)(2)(B)(i).

☒ Other: Statement under 37 CFR 3.73(c).

☒ Other: Track 1 Request (Form PTO/AIA/424) .

3. SMALL/MICRO ENTITY STATUS:

☐ Applicant is small entity (per 37 CFR §1.27).

☐ Applicant is micro entity (per 37 CFR §1.27).

☐ A small/micro entity statement was filed in prior application no. _____ and such status is still proper and desired.

☐ Small/micro entity status is no longer desired.

4. FEE CALCULATION (AFTER ENTRY OF ANY PRELIMINARY AMENDMENT(S) IN ITEM #2 ABOVE):

Claims as Filed	**Col. 1**	**Col. 2**	**Fee**		**Small Entity Fee**		**Micro Entity Fee**	
For	No. Filed	No. Extra	Rate	Fee	Rate	Fee	Rate	Fee
Basic Filing Fee			+$300=	$300	+$75=	$	+$75=	$
Total Claims	24-20	4	4x$100=	$400	x$ 50=	$	x$ 25=	$
Independent Claims	4-3	0	x$460=	$	x$230=	$	x$115=	$
Multiple Dependent Claims Present			+$820=	$	+$410=	$	+$205=	$
Utility Application Size Fee (see MPEP 607 Filing Fee)			No. of pages 31 - 100 = *	x .75 = / 50 =	No. of pages - 100 = *	x .75 = / 50 =	No. of pages - 100 = *	x .75 = / 50 =
			x$400=	$	x$200=	$	x$100=	$
Search Fee			+$660=	$660	+$330=	$	+$165=	$
Examination Fee			+$760=	$760	+$380=	$	+$190=	$
Prioritized Examination (Track 1) (37 CFR 1.17(c))				$4,000				
Processing Fee				$140				
Surcharge: Late Oath/Declaration (37 CFR 1.16(f))			+$160=	$	+$80=	$	+$40=	$
*If the difference is less than zero, enter "0" in col.2.			Total	$6,260	Total	$	Total	$

5. FEE PAYMENT:

☒ Please charge Deposit Account No. 50-4184 in the amount of $6,260.

☐ Payment by credit card in the amount of $_____ (Form PTO-2038 is attached).
WARNING: Information on this form may become public. **Credit card information should not be included on this form.**

☒ The Director is hereby authorized to charge payment of the following fees or credit any overpayment to Deposit Account No. 50-4184.

☒ Any additional filing fees required under 37 CFR § 1.16.

☒ Any patent application processing fees under 37 CFR §1.17.

☐ The Director is hereby authorized to charge payment of the following fees during the pendency of this application or credit any overpayment to Deposit Account No. 50-4184.

☐ Any filing fees under 37 CFR § 1.16 for presentation of extra claims.

☐ Any patent application processing fees under 37 CFR § 1.17.

☐ The issue fee set in 37 CFR § 1.18 at or before mailing of the Notice of Allowance, pursuant to 37 CFR § 1.311(b).

6. CORRESPONDENCE ADDRESS: Please recognize the correspondence address for this application as the address associated with the following Customer Number:

Customer No.: 16530 - USAA/BGL

7. PLEASE DIRECT all telephonic communications to: Peter S. Lee (tel: (312) 321-4200).

Respectfully submitted,

July 2, 2018
Date

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DIGITAL CAMERA PROCESSING SYSTEM

[0001] Checks typically provide a safe and convenient method for an individual to purchase goods and/or services. To use a check, the individual usually must open a checking account, or other similar account, at a financial institution and deposit funds, which are then available for later withdrawal. To pay for goods and/or services with a check, the payor (i.e., the buyer) usually designates a payee (i.e., the seller) and an amount payable on the check. In addition, the payor often signs the check. Once the check has been signed, it is usually deemed negotiable, meaning the check may be validly transferred to the payee upon delivery. By signing and transferring the check to the payee, the payor authorizes funds to be withdrawn from the payor's account on behalf of the payee in return for the goods and/or services provided by the payee.

[0002] Checks have certain advantages over other forms of payment, such as cash. For example, while often considered the most liquid type of asset, cash also may be the least secure. Unlike a check, cash is usually freely transferable and does not have to be endorsed. Thus, the owner and possessor of cash is most often the same individual. Because cash is freely transferable, cash that is lost or stolen typically cannot be recovered. Therefore, the risks associated with cash transactions are often unacceptable, particularly with respect to transactions not conducted in person (e.g., by mail) and/or involving large sums of money. A check, on the other hand, provides a payor with more security because the check usually requires a payor to specify both the person and amount to be paid. Furthermore, as noted above, the check is usually not valid until it is properly signed by the payor. These safeguards help to reduce the risk that money will be lost and/or stolen and ensure that the proper payee receives the proper amount of money.

[0003] Cash may have other disadvantages as well. For example, because cash is freely transferable, there may be little or no verifiable transaction history. It is often desirable for a payor and/or payee to have physical proof that a particular transaction took place. This typically requires that the payor receive a receipt. However, receipts may contain errors and can be easily misplaced. In contrast, a bank processing a check will ordinarily create a transaction history, which may include the identity of the payee, the amount to be paid, the date of the payment, and the signature of the payor. This enables both a payor and payee to independently verify the accuracy of most transactions involving a payment by check.

[0004] While a check may provide a payor with a convenient and secure form of payment, receiving a check may put certain burdens on the payee, such as the time and effort required to deposit the check. For example, depositing a check typically involves going to a local bank branch and physically presenting the check to a bank teller. In addition to the time commitment that may be required, visiting a bank branch may be problematic for the payee if the bank's hours of operation coincide with the payee's normal hours of employment. Thus, the payee may be required to leave work early and/or change work schedules.

[0005] A check may pose other burdens for the payee. As noted above, a check may not be freely transferable, thereby limiting the payee's ability to use funds from the check. For example, it is usually difficult to for the payee to purchase goods and/or services using a check issued by the payor. While the check may be endorsed and accepted by a third party, such transactions are often disfavored because the third party may not know the payor and, thus, may not be willing to accept the risk that the payor has insufficient funds to cover the check. Therefore, the payee may not have access to the funds from the check until the payee deposits the check at the bank, the check has cleared and the funds have been credited to the payee's account. The payee may have to wait even longer if the payee chooses to deposit the check by mail. Therefore, there is a need for a convenient method of remotely depositing a check while enabling the payee to quickly access the funds from the check.

[0006] The described embodiments contemplate a system, method and computer-readable medium with computer-executable instructions for remotely redeeming a negotiable instrument. In an embodiment, a novel system may include financial institution electronics, such as a server equipped with appropriate hardware and software for facilitating deposit of a check. Such electronics may be configured for receiving from a customer computer an identification of an account for deposit of a check, and an amount of said check. They may be further configured for receiving an image of a front side of said check, and for analyzing said image to determine if it meets at least one criterion. The criterion could be, for example, image size, image legibility, image orientation, image format, presence of certain image features that indicate the image in fact represents a check, and so forth. Financial institution electronics may be also configured for determining if there is an error in a deposit transaction. Numerous errors are possible candidates for detection, and several exemplary errors are provided herein. If there are no errors that warrant aborting the transaction, then such electronics may be further configured to initiate a deposit of

the check.

[0007] In another embodiment, a novel system may include, for example, a computer readable medium bearing instructions that can configure a customer's general purpose computer to facilitate a check deposit. Acting under direction of such instructions, the general purpose computer may instruct a customer, for example via a display coupled such computer, in utilizing an image capture device to generate an electronic image of a front side of a check, such that said electronic image of a front side of a check meets at least one first criterion such as image size, image legibility, image orientation, image quality, and location and/or orientation of the check within the image. Instructions may further be provided for receiving the image of a front side of a check from said image capture device, and optionally instructing the customer to process the image, e.g., by approving the image and/or modifying it to meet at least one second criterion. A second criterion might also be, for example, one or more of image size, image legibility, image orientation, image quality, and location and/or orientation of the check within the image. Finally, the customer computer, acting under direction of the instructions, may deliver an approved electronic image to financial institution electronics.

[0008] Additional advantages and features of the invention are described below.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The systems and methods for remote deposit of checks in accordance with the present disclosure are further described with reference to the accompanying drawings in which:

[0010] Figure 1 illustrates a broad view of a system in which the described embodiments may be employed.

[0011] Figure 2 an exemplary general purpose computing device that is communicatively coupled to financial institution electronics as well as an image capture device.

[0012] Figure 3 illustrates an exemplary schematic architecture of an image capture device as may be used in connection with various embodiments of the invention.

[0013] Figure 4 illustrates an exemplary network architecture as may connect the customer's general purpose computer to financial institution electronics and may also serve to connect components of financial institution electronics as well as various financial institutions to one another.

[0014] Figure 5 illustrates financial institution electronics coupled to a computer 530, and the various aspects of electronics 500 and computer 530 that may operate to implement the novel

systems, methods, and computer readable media set forth herein.

[0015] Figure 6 illustrates a view of the invention with particular focus on the software component 600 which may perform certain operations in connection with embodiments of the invention.

DETAILED DESCRIPTION

[0016] Certain specific details are set forth in the following description and figures to provide a thorough understanding of various embodiments of the invention. Certain well-known details often associated with computing and software technology are not set forth in the following disclosure, however, to avoid unnecessarily obscuring the various embodiments of the invention. Further, those of ordinary skill in the relevant art will understand that they can practice other embodiments of the invention without one or more of the details described below. Finally, while various methods are described with reference to steps and sequences in the following disclosure, the description as such is for providing a clear implementation of embodiments of the invention, and the steps and sequences of steps should not be taken as required to practice this invention.

[0017] Fig. 1 illustrates an example system in which the described embodiments may be employed. System 100 may include account owner 110, e.g., a bank customer who may be located, for example, at the customer's private residence. The account owner 110 may be utilizing a customer-controlled, general purpose computer 111. General purpose computer may be coupled to an image capture device 112. Customer 110 may use the image capture device 112 to generate an image of a negotiable instrument such as a check, and may send the image, along with any other data as appropriate, via a publicly accessible network 120 to financial institution 130 electronics such as server 131.

[0018] In one embodiment, the financial institution controlling electronics 131 is also the institution at which the customer has an account 160. Financial institution 130 may perform a variety of steps to process the incoming check image and other data. For example, financial institution may ensure the check is valid, ensuring the check image is in proper form for electronic handling, ensure it is not a duplicate of a previously deposited check, and so forth. Financial institution 130 may also forward the image over a network 125 to one or more other entities 140, 150, which may be associated with an account 170 on which the check was drawn.

[0019] A general purpose computer 111 is generally a Personal Computer (PC) running one of the well-known WINDOWS® brand operating systems made by MICROSOFT® Corp., or a

MACINTOSH® (Mac) brand computer, running any of the APPLE® operating systems. General purpose computers are ubiquitous today and the term should be well understood. A general purpose computer 111 may be in a desktop or laptop configuration, and generally has the ability to run any number of applications that are written for and compatible with the computer's operating system. The term "general purpose computer" specifically excludes specialized equipment as may be purchased by a business or other commercial enterprise, for example, for the specialized purpose of high-speed, high-volume check deposits. A particular advantage of embodiments of the invention is its ability to operate in conjunction with electronics that today's consumers actually own or can easily acquire, such as a general purpose computer, a scanner, and a digital camera.

[0020] An exemplary general purpose computer 111 as may be utilized in conjunction with embodiments of the invention is illustrated in Fig. 2. Device electronics 200 are illustrated in Fig. 2, and a schematic blowup 202 is provided to illustrate an exemplary internal architecture of the device. Computing architecture 202 includes one or more processors or processing units 204, a system memory 206, and a bus 208 that couples various system components including the system memory 206 to processors 204. The bus 208 represents one or more of any of several types of bus structures, including a memory bus or memory controller, a peripheral bus, an accelerated graphics port, and a processor or local bus using any of a variety of bus architectures. The system memory 206 includes read only memory (ROM) 212 and random access memory (RAM) 210. A basic input/output system (BIOS) 214, containing the basic routines that help to transfer information between elements within computing device 200, such as during start-up, is stored in ROM 212.

[0021] Computing architecture 202 further includes a hard disk drive 226, and may include a magnetic disk drive 2218 for reading from and writing to a removable magnetic disk 220, and an optical disk drive 222 for reading from or writing to a removable optical disk 224 such as a CD ROM or other optical media. The hard disk drive 226, magnetic disk drive 218, and optical disk drive 224 are connected to the bus 208 by appropriate interfaces. The drives and their associated computer-readable media provide nonvolatile storage of computer-readable instructions, data structures, program modules and other data for computing device 200. Although the exemplary environment described herein employs a hard disk, a removable magnetic disk 218 and a removable optical disk 224, other types of computer-readable media such as magnetic cassettes,

flash memory cards, digital video disks, random access memories (RAMs), read only memories (ROMs), and the like, may also be used in the exemplary operating environment.

[0022] A number of program modules may be stored on the hard disk 226, magnetic disk 218, optical disk 224, ROM 212, or RAM 210, including an operating system 227, one or more application programs 228, other program modules 230, and program data 232. A user may enter commands and information into computing device 200 through input devices such as a keyboard 234 and a pointing device 236. An image capture device 246 may also be coupled to the general purpose computer 200 as an input device. Other input devices 238 may include a microphone, joystick, game pad, satellite dish, or the like. These and other input devices are connected to the processing unit 204 through interfaces 240 that are coupled to the bus 208. A monitor 242 or other type of display device is also connected to the bus 208 via an interface 224, such as a video adapter 224.

[0023] Generally, the data processors of computing device 200 are programmed by means of instructions stored at different times in the various computer-readable storage media of the computer. Programs and operating systems may be distributed, for example, on floppy disks, CD-ROMs, or electronically, and are installed or loaded into the secondary memory of a computer. At execution, the programs are loaded at least partially into the computer's primary electronic memory 206.

[0024] Computing device 200 may operate in a networked environment using logical connections to one or more remote computers, such as financial institution electronics 248. The financial institution electronics 248 may be one or more server computers, routers, network PCs, and so forth, which typically include many or all of the elements described above relative to computing device 200. The financial institution electronics 248 may run remote application programs 258 which may operate in concert with application programs 228 that execute on the computer 200. For example, a "software component" as described herein may, in one embodiment, execute pursuant to commands from a remote application program 258. The software component may of course also operate in a more autonomous manner, performing certain tasks and then communicating data as necessary back to the remote application programs 258.

[0025] When used in a LAN networking environment, a computer 200 is connected to a local network 250 through a network interface or adapter 254. When used in a WAN networking

environment, computing device 200 typically includes a modem 256 or other means for establishing communications over the wide area network 252, such as the Internet. The modem 256, which may be internal or external, can be connected to the bus 208 for example via a serial port interface, or by sending a signal to a wireless router which then broadcasts and receives wireless signals to and from a wireless card that is connected to the computer 200.

[0026] In a networked environment, program modules depicted relative to the computing device 200, or portions thereof, may be stored in the remote memory storage device. It will be appreciated that the network connections shown are exemplary and other means of establishing a communications link between the computers may be used.

[0027] A general purpose computer such as 200 may also be "customer-controlled." A common example of a customer-controlled computer would be a typical computer located in a private residence. The owner of such a computer typically has the power to install programs and configure the computer as they wish, subject to certain security restrictions that may be imposed by the hardware or software manufacturers. A customer-controlled computer need not be located in a private residence, however. For example, computers in college dormitories, in workplace offices, and so forth may also be considered to be "customer-controlled."

[0028] An example of a computer that would not be considered customer-controlled would be an Automatic Teller Machine (ATM) that is typically controlled by a bank or other business. Although a customer may access and utilize an ATM machine, the ATM machine is not customer-controlled because the allowed uses of the ATM machine are highly restricted. Relevant factors in determining whether a machine is customer controlled are thus the scope of operations that a customer may perform using the machine, and extent to which the customer can reconfigure the machine in some way by adding software and/or hardware components.

[0029] One of the applications 228 that may run on a general purpose computer 200 in connection with the invention is a browser. Common browsers in use today are, for example, the popular INTERNET EXPLORER® line of browsers made by MICROSOFT® Corp., the FIREFOX® browsers distributed via the MOZILLA® open source project, and the NETSCAPE NAVIGATOR® browsers also distributed via the MOZILLA® open source project. Browsers generally allow users to point to a Uniform Resource Locator (URL), and thereby retrieve information such as a web page. For example, a browser application on computer 200 could retrieve a web page that is kept at server associated with financial institution electronics 248, and

display the web page on display 242 to the account owner 110 (Fig. 1), as is generally known and appreciated in the industry and by the general public.

[0030] Another application 228, or set of applications, that may run on a general purpose computer 200 in connection with the invention comprises "virtual machine" technologies such as the JAVA® virtual machine software distributed by SUN MICROSYSTEMS® Corp, and .NET® Framework distributed by MICROSOFT® Corp. In general, such applications facilitate execution of further application programs 228 in a variety of computing environments. For example, a JAVA® applet is a computer program (which may be alternatively referred to herein as a "software component") that can execute on any computer running the JAVA® virtual machine software. The applet may be provided to virtual machine software in a "source code" format, and may be compiled by a "just in time" compiler, so as to put the applet in a form that can be executed by the hardware associated with the particular computing device. These technologies are known in the art and may be utilized in connection with certain embodiments of the invention as described herein.

[0031] Referring back to Fig. 1, an image capture device 112 may be communicatively coupled to the computer 111. Image capture device 112 may be, for example, a scanner or digital camera. Computer 111 may comprise software that allows the user to control certain operations of the image capture device 112 from the computer 111. For example, modern scanner users may be familiar with the TWAIN® software is often used to control image capture from a computer 111. Similarly, digital cameras often ship along with software that allows users to move images from the camera to a computer 111, and may also provide additional functions, such as photo editing functions crop and rotate.

[0032] Referring now to Fig. 3, a schematic illustration of an exemplary image capture device architecture 300 is illustrated. As with the general purpose computer 200 of Fig. 2, an image capture device may comprise a processing unit 302 and memory 303. Depending on the exact configuration and type of image capture device, memory 303 may be volatile (such as RAM), non-volatile (such as ROM, flash memory, etc.) or some combination of the two. Additionally, image capture device 300 may have mass storage (removable 304 and/or non-removable 305) such as magnetic or optical disks or tape. Image capture device 300 may have image capture apparatus 307 such as a scanner bed, camera lens, and so forth. Finally, image capture device 300 may include communication connections 308 to other devices, computers, networks, servers,

etc. using either wired or wireless media. In particular, communication connections 308 may serve to communicatively couple device to a general purpose computer such as provided in Fig. 2.

[0033] Referring back to Fig. 1, financial institutions 130, 140 and 150 may be any type of entity capable of processing a transaction involving a negotiable instrument. For example, financial institutions 130, 140 and 150 may be a retail bank, investment bank, investment company, regional branch of the Federal Reserve, clearinghouse bank and/or correspondent bank. A negotiable instrument is usually a type of contract that obligates one party to pay a specified sum of money to another party. By way of example, and not limitation, negotiable instruments may include a check, draft, bill of exchange, promissory note, and the like.

[0034] Financial institution 130 is illustrated as associated with a server 131. Financial institution 130 may maintain and operate server 131 for the purposes of communicating with customers such as 110. Alternatively, 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. Such 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.

[0035] Account owner 110 may be an individual who owns account 160, which may be held at financial institution 130. As such, account owner 110 may be described as a customer of financial institution 130 and/or a "payee" because it is contemplated that customer 110 may deposit a check made out to him- or herself. Embodiments of the invention are also possible, however, in which the customer deposits a check made to another payee, in which case the customer and payee are not one and the same. Account 160 may be any type of account for depositing funds, such as a savings account, checking account, brokerage account, and the like. Account owner 110 may communicate with financial institution 130 by way of communication network 120, which may include an intranet, the Internet, a local area network (LAN), a wide area network (WAN), a public switched telephone network (PSTN), a cellular network, a voice over internet protocol (VoIP) network, and the like. Account owner 110 may communicate with financial institution 130 by phone, email, instant messaging, facsimile, and the like.

[0036] In one contemplated embodiment, network 120 is a publicly accessible network such as the Internet, which can presently be accessed from many private residences and many public

places such as college campuses, airports, coffee shops, and restaurants throughout the United States as well as many other countries of the world. A variety of technologies are available to establish secure connections over such a public network, so that data transmitted between computer 111 and a server 131 associated with the institution 130 remains either inaccessible or indecipherable by third parties that may intercept such data. The invention may make use of any such security technologies.

[0037] Financial institutions 130, 140 and 150 may communicate with each other via a network 125. Network 125 may be a publicly accessed network such as 120. Alternatively, network 125 may have certain characteristics that differ from network 120, due to the different requirements of bank-to-bank communications. For example, one might envision certain security features and access restrictions being more important in bank-to-bank communications.

[0038] Fig. 4 illustrates an exemplary computer network as may be implemented in connection with 120 and 125. One of ordinary skill in the art can appreciate that networks can connect any computer or other client or server device, or in a distributed computing environment. In this regard, any computer system or environment having any number of processing, memory, or storage units, and any number of applications and processes occurring simultaneously is considered suitable for use in connection with the systems and methods provided.

[0039] Distributed computing provides sharing of computer resources and services by exchange between computing devices and systems. These resources and services include the exchange of information, cache storage and disk storage for files. Distributed computing takes advantage of network connectivity, allowing clients to leverage their collective power to benefit the entire enterprise. In this regard, a variety of devices may have applications, objects or resources that may implicate the processes described herein.

[0040] Fig. 4 provides a schematic diagram of an exemplary networked or distributed computing environment. The environment comprises computing devices 471,472,476, and 477 as well as objects 473,474, and 475, and database 478. Each of these entities 471,472,473,474,475, 476, 477 and 478 may comprise or make use of programs, methods, data stores, programmable logic, etc. The entities 471,472,473,474,475,476,477 and 478 may span portions of the same or different devices such as PDAs, audio/video devices, MP3 players, personal computers, etc. Each entity 471,472,473,474,475,476,477 and 478 can communicate with another entity 471,472, 473,474,475,476,477 and 478 by way of the communications

network 470. In this regard, any entity may be responsible for the maintenance and updating of a database 478 or other storage element.

[0041] This network 470 may itself comprise other computing entities that provide services to the system of Fig. 4, and may itself represent multiple interconnected networks. In accordance with an aspect of the invention, each entity 471,472,473,474,475,476,477 and 478 may contain discrete functional program modules that might make use of an API, or other object, software, firmware and/or hardware, to request services of one or more of the other entities 471,472,473,474, 475, 476, 477 and 478.

[0042] It can also be appreciated that an object, such as 475, may be hosted on another computing device 476. Thus, although the physical environment depicted may show the connected devices as computers, such illustration is merely exemplary and the physical environment may alternatively be depicted or described comprising various digital devices such as PDAs, televisions, MP3 players, etc., software objects such as interfaces, COM objects and the like.

[0043] There are a variety of systems, components, and network configurations that support distributed computing environments. For example, computing systems may be connected together by wired or wireless systems, by local networks or widely distributed networks. Currently, many networks are coupled to the Internet, which provides an infrastructure for widely distributed computing and encompasses many different networks. Any such infrastructures, whether coupled to the Internet or not, may be used in conjunction with the systems and methods provided.

[0044] A network infrastructure may enable a host of network topologies such as client/server, peer-to-peer, or hybrid architectures. The "client" is a member of a class or group that uses the services of another class or group to which it is not related. In computing, a client is a process, i.e., roughly a set of instructions or tasks, that requests a service provided by another program. The client process utilizes the requested service without having to "know" any working details about the other program or the service itself. In a client/server architecture, particularly a networked system, a client is usually a computer that accesses shared network resources provided by another computer, e.g., a server. In the example of Fig. 4, any entity 471,472,473,474,475,476, 477 and 478 can be considered a client, a server, or both, depending on the circumstances.

[0045] A server is typically, though not necessarily, a remote computer system accessible over a remote or local network, such as the Internet. The client process may be active in a first computer system, and the server process may be active in a second computer system, communicating with one another over a communications medium, thus providing distributed functionality and allowing multiple clients to take advantage of the information-gathering capabilities of the server. Any software objects may be distributed across multiple computing devices or objects.

[0046] Client(s) and server(s) communicate with one another utilizing the functionality provided by protocol layer(s). For example, HyperText Transfer Protocol (HTTP) is a common protocol that is used in conjunction with the World Wide Web (WWW), or "the Web." Typically, a computer network address such as an Internet Protocol (IP) address or other reference such as a Universal Resource Locator (URL) can be used to identify the server or client computers to each other. The network address can be referred to as a URL address. Communication can be provided over a communications medium, e.g., client(s) and server(s) may be coupled to one another via TCP/IP connection(s) for high-capacity communication.

[0047] Returning again to Fig. 1, in an embodiment, account owner 110 may wish to deposit a check that is drawn from account 170 at financial institution 150. Account owner 110 may deposit the check into account 160 by converting the check into electronic data and sending the data to financial institution 130. Aspects of the invention may thus comprise systems and methods carried out by the account owner 110 and his computer 111. Aspects of the invention may also comprise systems and methods carried out by the financial institution 130 and their server 131 or other electronics that facilitate and enable such deposit by the account owner 110.

[0048] For example, account owner 110 may convert the check into a digital image by scanning the front and/or back of the check using image capture device 112. Account owner 110 may then send the image to financial institution 130 using the systems and methods described herein. Please refer to Fig. 5 and corresponding description for a detailed exemplary embodiment of systems and methods for facilitating and processing a check deposit transaction. Upon receipt of the image, financial institution 130 may credit the funds to account 160. Financial institution 130 may clear the check by presenting the digital image to an intermediary bank, such as a regional branch of the Federal Reserve, a correspondent bank and/or a clearinghouse bank.

[0049] For example, the check may be cleared by presenting the digital image to financial

institution 140, which may be a regional branch of the Federal Reserve, along with a request for payment. Financial institution 130 and 150 may have accounts at the regional branch of the Federal Reserve. As will be discussed in greater detail below, financial institution 130 may create a substitute check using the image provided by account owner 110 and present the substitute check to financial institution 140 for further processing. Upon receiving the substitute check, financial institution 140 may identify financial institution 150 as the paying bank (e.g., the bank from which the check is drawn). This may be accomplished using a nine-digit routing number located on the bottom left hand corner of the check. A unique routing number is typically assigned to every financial institution in the United States. Financial institution 140 may present the substitute check to financial institution 150 and request that the check be paid. If financial institution 150 verifies the check (i.e., agrees to honor the check), financial institution 140 may then settle the check by debiting funds from financial institution 150 and crediting funds to financial institution 130. Financial institution 150 may then debit funds from account 170.

[0050] It will be appreciated that the preceding examples are for purposes of illustration and explanation only, and that an embodiment is not limited to such examples. For example, financial institution 150 may be a correspondent bank (i.e., engaged in a partnership with financial institution 130). Thus, financial institution 130 may bypass the regional branch of the Federal Reserve and clear the check directly with financial institution 150. In addition, account 160 and account 170 may both be held at financial institution 130, in which case the check may be cleared internally.

[0051] Fig. 5 illustrates a system for facilitating deposit of a check, in which financial institution electronics 500 communicate with a computer 530 via network 520. There are a variety of unique aspects which may be described with reference to Fig. 5. We begin with a description of operations that may be carried out by the financial institution electronics 500, which will be referred to for the sake of simplicity as "server 500" with the understanding that additional electronics may be involved.

[0052] Server 500 may comprise a subsystem 511 for providing a software component 532 to a computer 530. This subcomponent may require the customer to download a virtual machine framework 533 so that the component 532 is operable on the operating system 535 and hardware 537 of the computer 530. In general, the software component allows the financial institution to

control certain aspects of check image creation and delivery by the computer 530. Thus, while the computer 530 may be customer-controlled, the customer downloads component 532 to facilitate a deposit, thereby allowing a financial institution to effectively control certain aspects of the image generation and delivery process.

[0053] Server 500 may also comprise a subsystem for user authentication 512, such as by requiring a username and password. Other authentication methods such as requiring a digital certificate, data representing a customer fingerprint, and so forth are also possible. User authentication can open an interactive session supported by a component such as 508, in which the user can exchange information with the server 500 and receive instructions from the server 500. In addition, server 500 may, in some embodiments, control operation of the software component 532.

[0054] Server 500 may comprise a subsystem for receiving from a customer-controlled general purpose computer such as 530, an identification of an account for deposit of a check, and an amount of said check. "Remote deposit servlet" 510 may for example provide such functions. Remote deposit servlet 510 may provide a user interface (or user interface data) to a browser 534, and such user interface may prompt a customer to enter information such as an account number and an amount of a check for deposit. In an embodiment where multiple checks are being deposited at once, the customer may itemize the checks by writing an amount of each. It will be appreciated that servlet 510 need not directly take responsibility for a website, and may instead merely communicate with one or more other subsystems that are responsible for doing so.

[0055] Server 500 may further comprise a subsystem for receiving from computer 530 an image of a front side of said check. "Image servlet" 509 is such a subsystem in the illustrated embodiment. In embodiments where software component 532 is responsible for delivering images to image servlet 509, servlet 509 may be configured to communicate with component 532 as appropriate. In one embodiment, both an image of a front side of a check and an image of a back side of a check are received. These may be two separate images, or may be a single image in which the separately generated images are "stitched together" for simultaneous viewing as a single image.

[0056] Server 500 may further comprise a subsystem for analyzing said image of a front side of said check to determine if it meets at least one criterion. Subsystems 502 and 503 may for

example perform such determining. In order to automate remote check deposits, it is desirable to configure server 500 to recognize that the image it receives is in fact a check, that the check is valid and not a duplicate, and that the received image can be used to further process the transaction. Image quality determination 502 may thus be provided to ensure that the received image can be used to further process the transaction.

[0057] Image usability determination subsystem 503 may further require an image to meet additional criteria. For example, it may be required that the image is in a particular format, e.g. a Joint Photographic Experts Group (JPEG) format. While systems may be designed to handle checks in any format, it may be cost effective to require customers to send in only images of specified formats so as to lower development costs of the system. It may also be required that the image is of a predetermined size, or that the image has features indicating it is a negotiable instrument of a desired type. For example, almost all checks have certain features, such as a MICR line, a signature line, an endorsement area on the back, an amount box, a date, and so forth. Often such features are in a consistent location on the check. A subsystem such as 503 may ensure that such features are present prior to allowing the transaction to continue.

[0058] Server 500 may further comprise a subsystem for performing Optical Character Recognition (OCR) on said image of said front side of said check. OCR can be useful in determining MICR line information such as routing number, account number, and check number. It can also be used to determine a check amount by performing OCR on the amount location of the check. Other information such as check date, payor name, payor financial institution, and so forth may be gleaned. Such information may be validated, for example, by comparing it to information such as a list of valid routing numbers, comparing an OCR-determined amount to a customer-entered amount, and so forth, or simply stored in a log file.

[0059] Server 500 may further comprise a subsystem for determining if there is an error in said deposit of said check. Error processing 506 may be responsible for this, and may comprise a variety of useful aspects. In one embodiment, error processing 506 may comprise a subsystem for validating a routing number associated with said check. In another embodiment, error processing 506 may comprise a subsystem for determining if said check was previously deposited. For example, if a list of deposited checks is maintained for the depositing customer, then the check number can be compared against such a list. Comparing to a list of all deposits for an entire financial institution, or even multiple financial institutions, is also possible. However, if

duplicate checking is to be done in real time, i.e. while the customer waits for confirmation, then it is desirable to streamline the process for example by only determining duplicates from a predetermined set of most likely relevant data.

[0060] Error processing 506 may further comprise a subsystem for comparing an amount of a check as provided by a customer to an amount determined by performing OCR on said image of said front side of said check. If the numbers do not match, the server can indicate an error and as a result, not proceed with the deposit transaction. Similarly, such an error may result from any error checking operation performed herein. Alternatively, certain errors can be designated as not meriting aborting a deposit, and may simply result in flagging the transaction for later scrutiny. Such a "transaction flagging" approach is particularly applicable to situations in which a duplicate check deposit is identified. Because duplicate determinations are prone to false positives, simply flagging, rather than aborting, a transaction may be preferable when a duplicate is possible.

[0061] OCR may also be applied to an image of a back side of the check. For example, in one embodiment, an OCR analysis of a MICR line location on an alleged image of a back of a check can be made. Backs of checks should not have MICR lines. Therefore, if such OCR process identifies MICR information, it can be determined that the image of the back of a check is improper. Thus, one criterion in analyzing an image of a back of a check may be the absence of a MICR line.

[0062] Server 500 may further comprise an endorsement determination subsystem 505. Such a subsystem 505 may determine if a signature appears on said back side of said check. While endorsement of a check is not legally required for depositing a check into the payee's bank account, there are a variety of reasons banks typically require endorsement by the payee. Endorsement determination 505 may comprise simply checking for some indication of handwriting in the endorsement area of the image of the back side of a check. Other embodiments may go further by attempting to recognize an authorized signature of the payee and/or customer.

[0063] Server 500 may further comprise temporary image storage 501 for storing images while performing operations such as OCR and error processing. Images stored in temporary storage may be in the original format, i.e. as received from computer 530, or in some other format, such as the bi-tonal TIFF format required by Check 21 legislation, or both. In fact, it can be useful to

include in some embodiments a mechanism for converting images from such first format to a second format such as bi-tonal TIFF, and to place such images in a log file.

[0064] Server 500 may further comprise a subsystem for initiating a deposit of a check into the specified account 513. Deposit initiation may comprise a wide variety of possible actions, depending on how such operations are initiated in particular bank systems. For example, a deposit might be initiated by "soft posting" or provisionally posting a credit to the customer's account. It might be initiated by forwarding an image to the payor's bank or Federal Reserve. It might be initiated by placing data in a batch file for processing all the deposits for the day. Deposit initiation is any action that sets in motion a chain of automated events resulting in a crediting of the customer's account.

[0065] Referring now to computer 530, a number of novel aspects also pertain to computer 530 as well as the interaction between the computer 530 and the server 500. As described above, a software component 532 may be executed by computer 530 in connection with carrying out the invention. One embodiment of the software component is illustrated in Fig. 6. As illustrated in Figs. 5 and 6, an exemplary component 532 may execute in conjunction with a virtual machine framework 533 as described above. This gives the advantage of developing a single component that works predictably on most customer computers, which may be configured somewhat differently, for example having different hardware 537 and operating systems 535.

[0066] A customer may connect to server 500 using a browser application 543 that executes on the computer 530. The customer may view instructions in the browser, for example instructing the customer to log in, instructing the customer to place a check on or in front of an image capture device, instructing the customer to edit an image, and so forth. The browser may run in conjunction with the software component 532, or the software component may run in a separate process and have its own user interface.

[0067] Image capture device control software and/or image edit software 531 may also execute on the computer 530. This software 531 interfaces with the image capture device 540, and may serve functions such as initiating image capture, managing image retrieval, facilitating image editing, and so forth. In one embodiment, software 531 may provide an interface so that it can be controlled to some extent by software component 532. If software component is in turn controlled by image servlet 509, the management of the image capture and retrieval process can be performed from the server 500. Alternatively, at any step along the way, the customer can be

instructed to perform certain functions using software 531 or component 432, if such functions are better performed, or more conveniently performed by a human.

[0068] Storage location 536 provides a location that can be temporarily used by the component 532 to store images and/or a log file that may be generated to persist useful data regarding a deposit transaction.

[0069] Operations that are performed by the system comprising computer 530, browser 534, component 532, image capture software 531, image capture device 540, and customer (not shown) can generally comprise providing customer credentials, identifying an account, identifying an amount of a deposit, capturing an image of a front side of a check according to the criteria required by the bank via component 532, cropping and rotating the image of a front side of a check according to the criteria required by the bank via component 532, endorsing and capturing an image of a back side of a check according to the criteria required by the bank via component 532, and delivering such images to server 500.

[0070] Fig. 6 illustrates a system for facilitating deposit of a check from a customer-controlled general purpose computer, with special focus on aspects of the software component 600. As illustrated, an exemplary software component 600 may comprise a variety of functional subsystems 601-609. The component may in one-embodiment be server-activated in that it executes various aspects of its functionality after receiving instructions to do so from a server 640. As such, component 600 may have a server interface 601 for receiving commands from the server 640.

[0071] As mentioned above, the component 600 may also be designed to interoperate with a virtual machine framework 620, for the purpose of realizing certain benefits as understood in the art to accompany such technologies, such as facilitating widespread distribution and better guarantees of acceptable operation. The framework 620 in turn operates on the platform of the customer's general purpose computer 630.

[0072] For example, the component 600 may provide a subsystem 602 for instructing a customer, for example via a user interface visible on a display coupled to a customer-controlled general purpose computer 630, in utilizing an image capture device to generate an electronic image of a front side of a check, such that said electronic image of a front side of a check meets at least one first criterion. In one embodiment, the customer may be instructed for example to place the check face-down in a top left corner of a scanner bed. The customer may further be

instructed to place the check in a certain orientation. An image thus produced will meet criteria such as being upright and at a "right angle" with respect to a rectangular image format.

[0073] The component 600 may also comprise a subsystem 604 such as image capture device interface for receiving an image of a front side of a check from the image capture device. The image may be immediately uploaded to the server 640, or may be temporarily persisted using image storage function 605. A reason for such temporary persisting is to allow for certain customer modifications, and to allow for generation of further images such as an image of a back side of the check. Although not necessary to the invention, it can be expedient to deliver all images to the server 640 at once.

[0074] Once an image is generated, subsystem 602 may further instruct the customer to process the electronic image of a front side of a check. Processing the image may comprise simply approving the image if said image of a front side of a check meets said at least one first criterion. This aspect may also be provided by another subsystem such as 606. For example, the image may be presented to the customer and the customer may be asked if the image is right side up and legible. If so, the customer may approve the image, for example by selecting an appropriate approval button in the user interface.

[0075] Components 602, 604, 605, and 606 may operate similarly with regard to capturing an image of a back side of a check. The customer may be instructed by 602 to capture an electronic image of a back side of a check meets at least one third criterion, which may in one embodiment be a same criterion as the first criterion, e.g. image size, image legibility, image orientation, and so forth. The image may be received by the component via 604. The customer may also be asked to approve by 602.

[0076] Further to being instructed by 602 and/or 606 to process an image, a customer may be instructed to modify said electronic image of a front side of a check and/or a back side of the check, such that said electronic image of a front side of a check meets at least one second criterion. For example, an image as scanned may be presented to the customer, and the customer may be asked to select a bottom right corner of the check in the image. Assuming the top left corner of the check is also in the top left corner of the image, the customer selection of the bottom right corner of the check can be used to crop out any and all of the image that goes beyond the boundaries of the check.

[0077] Component 600 may also comprise a subsystem for generating a log file 607

comprising data associated with said deposit. Exemplary data that may be collected in the log file is an identification of the operating system used by the customer's general purpose computer, an identification of a browser used by the customer's general purpose computer, an identification of an image capture device make and model, an identification of a version of the JAVA virtual machine software, or, if .NET technologies are used, the version of the .NET Framework, and an identification of transaction data, for example a transaction ID, account number, customer name, amount of deposit, check routing number, check number, check account number, and so forth.

[0078] Component 600 may also comprise a subsystem for data delivery 608 and cleanup 609. The delivery subsystem 608 may initiate a delivery of images and other data, such as the log file, to the server. It may utilize functionality provided in the server interface 601 if desirable. The cleanup subsystem 609 may delete certain data from the customer's computer 630. For example, any image files that may have been created for temporary purposes may be deleted. Thus cleanup subsystem 609 may remove an electronic image of a front side of a check from a memory associated with said customer-controlled general purpose computer 630.

[0079] It should be appreciated that the various illustrations and examples provided herein also disclose corresponding methods and computer readable media bearing instructions for carrying out such methods. Furthermore, in addition to the specific implementations explicitly set forth herein, other aspects and implementations will be apparent to those skilled in the art from consideration of the specification disclosed herein. It is intended that the specification and illustrated implementations be considered as examples only, with a true scope and spirit of the following claims.

What is Claimed:

1. A system for facilitating deposit of a check, said system comprising:

a subsystem for receiving from a customer-controlled general purpose computer an identification of an account for deposit of a check, and an amount of said check;

a subsystem for receiving from said customer-controlled general purpose computer an image of a front side of said check;

a subsystem for analyzing said image of a front side of said check to determine if it meets at least one criterion;

a subsystem for determining if there is an error in said deposit of said check;

a subsystem for initiating said deposit of said check into said account.

2. The system for facilitating deposit of a check of claim 1, further comprising a subsystem for authenticating an identity of a customer that is operating said customer-controlled general purpose computer.

3. The system for facilitating deposit of a check of claim 1, wherein said subsystem for determining if there is an error in said deposit of said check comprises a subsystem for validating a routing number associated with said check.

4. The system for facilitating deposit of a check of claim 1, wherein said subsystem for determining if there is an error in said deposit of said check comprises a subsystem for determining if said check was previously deposited.

5. The system for facilitating deposit of a check of claim 1, wherein said subsystem for receiving from said customer-controlled general purpose computer an image of a front side of said check is further configured to receive from said customer-controlled general purpose computer an image of a back side of said check.

6. The system for facilitating deposit of a check of claim 5, wherein said subsystem for determining if there is an error in said deposit of said check comprises a subsystem for determining if a signature appears on said back side of said check.

7. The system for facilitating deposit of a check of claim 1, wherein said subsystem for determining if there is an error in said deposit of said check comprises a subsystem for comparing said amount of said check to an amount determined by performing Optical Character Recognition (OCR) on said image of said front side of said check.

8. The system for facilitating deposit of a check of claim 1, further comprising a subsystem for performing Optical Character Recognition (OCR) on said image of said front side of said check.

9. A method for facilitating deposit of a check, said method comprising:

receiving from a customer-controlled general purpose computer an identification of an account for deposit of a check, and an amount of said check;

receiving from said customer-controlled general purpose computer an image of a front side of said check;

analyzing said image of a front side of said check to determine if it meets at least one criterion;

determining if there is an error in said deposit of said check;

initiating said deposit of said check into said account.

10. The method for facilitating deposit of a check of claim 9, further comprising authenticating an identity of a customer that is operating said customer-controlled general purpose computer.

11. The method for facilitating deposit of a check of claim 9, wherein said determining if there is an error in said deposit of said check comprises validating a routing number associated with said check.

12. The method for facilitating deposit of a check of claim 9, wherein said determining if there is an error in said deposit of said check comprises determining if said check was previously deposited.

13. The method for facilitating deposit of a check of claim 9, further comprising receive from said customer-controlled general purpose computer an image of a back side of said check.

14. The method for facilitating deposit of a check of claim 13, wherein said determining if there is an error in said deposit of said check comprises determining if a signature appears on said back side of said check.

15. The method for facilitating deposit of a check of claim 9, wherein said determining if there is an error in said deposit of said check comprises comparing said amount of said check to an amount determined by performing Optical Character Recognition (OCR) on said image of said front side of said check.

16. The method for facilitating deposit of a check of claim 9, further comprising performing Optical Character Recognition (OCR) on said image of said front side of said check.

17. A computer readable medium bearing instructions for facilitating deposit of a check, said instructions comprising:

instructions for receiving from a customer-controlled general purpose computer an identification of an account for deposit of a check, and an amount of said check;

instructions for receiving from said customer-controlled general purpose computer an image of a front side of said check;

instructions for analyzing said image of a front side of said check to determine if it meets at least one criterion;

instructions for determining if there is an error in said deposit of said check;

instructions for initiating said deposit of said check into said account.

18. The computer readable medium for facilitating deposit of a check of claim 17, further comprising instructions for authenticating an identity of a customer that is operating said customer-controlled general purpose computer.

19. The computer readable medium for facilitating deposit of a check of claim 17, wherein said instructions for determining if there is an error in said deposit of said check comprise instructions for validating a routing number associated with said check.

20. The computer readable medium for facilitating deposit of a check of claim 17, wherein said instructions for determining if there is an error in said deposit of said check comprise instructions for determining if said check was previously deposited.

21. The computer readable medium for facilitating deposit of a check of claim 17, wherein said instructions for receiving from said customer-controlled general purpose computer an image of a front side of said check are further configured to receive from said customer-controlled general purpose computer an image of a back side of said check.

22. The computer readable medium for facilitating deposit of a check of claim 21, wherein said instructions for determining if there is an error in said deposit of said check comprise instructions for determining if a signature appears on said back side of said check.

23. The computer readable medium for facilitating deposit of a check of claim 17, wherein said instructions for determining if there is an error in said deposit of said check comprise instructions for comparing said amount of said check to an amount determined by performing Optical Character Recognition (OCR) on said image of said front side of said check.

24. The computer readable medium for facilitating deposit of a check of claim 17, further comprising instructions for performing Optical Character Recognition (OCR) on said image of said front side of said check.

ABSTRACT

A digital camera processing system with software to manage taking photos with a digital camera. Camera software controls the digital camera. A downloaded software component controls the digital camera software and causes a handheld mobile device to perform operations. The operations may include instructing a user to have the digital camera take photos of a check; displaying an instruction on a display of the handheld mobile device to assist the user in having the digital camera take the photos; or assisting the user as to an orientation for taking the photos with the digital camera. The digital camera processing system may generate a log file including a bi-tonal image formatted as a TIFF image.

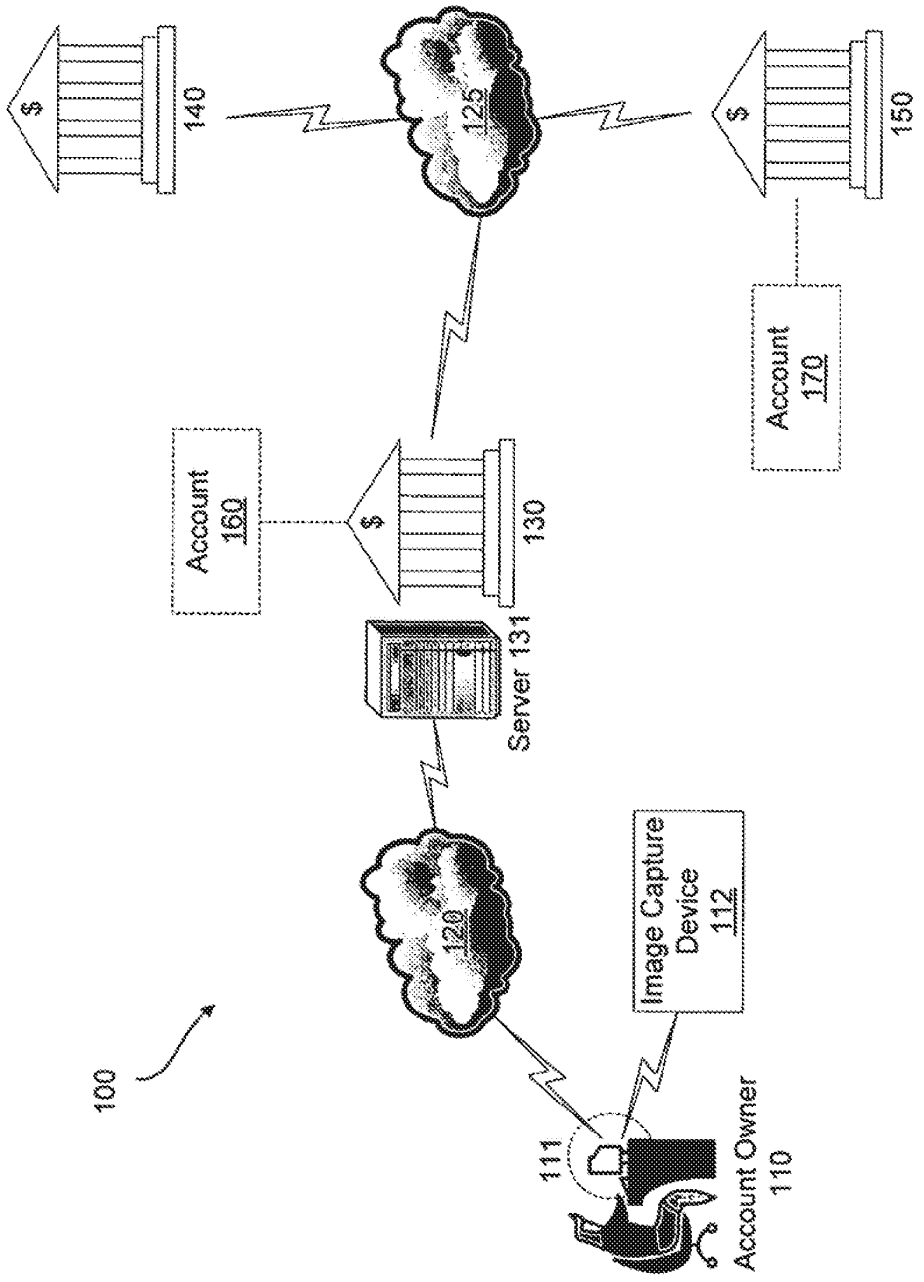

100
120
125
140
150
111
Account Owner
110
Image Capture
Device
112
Server 131
130
Account
160
Account
170
$
$
$

FIGURE 1

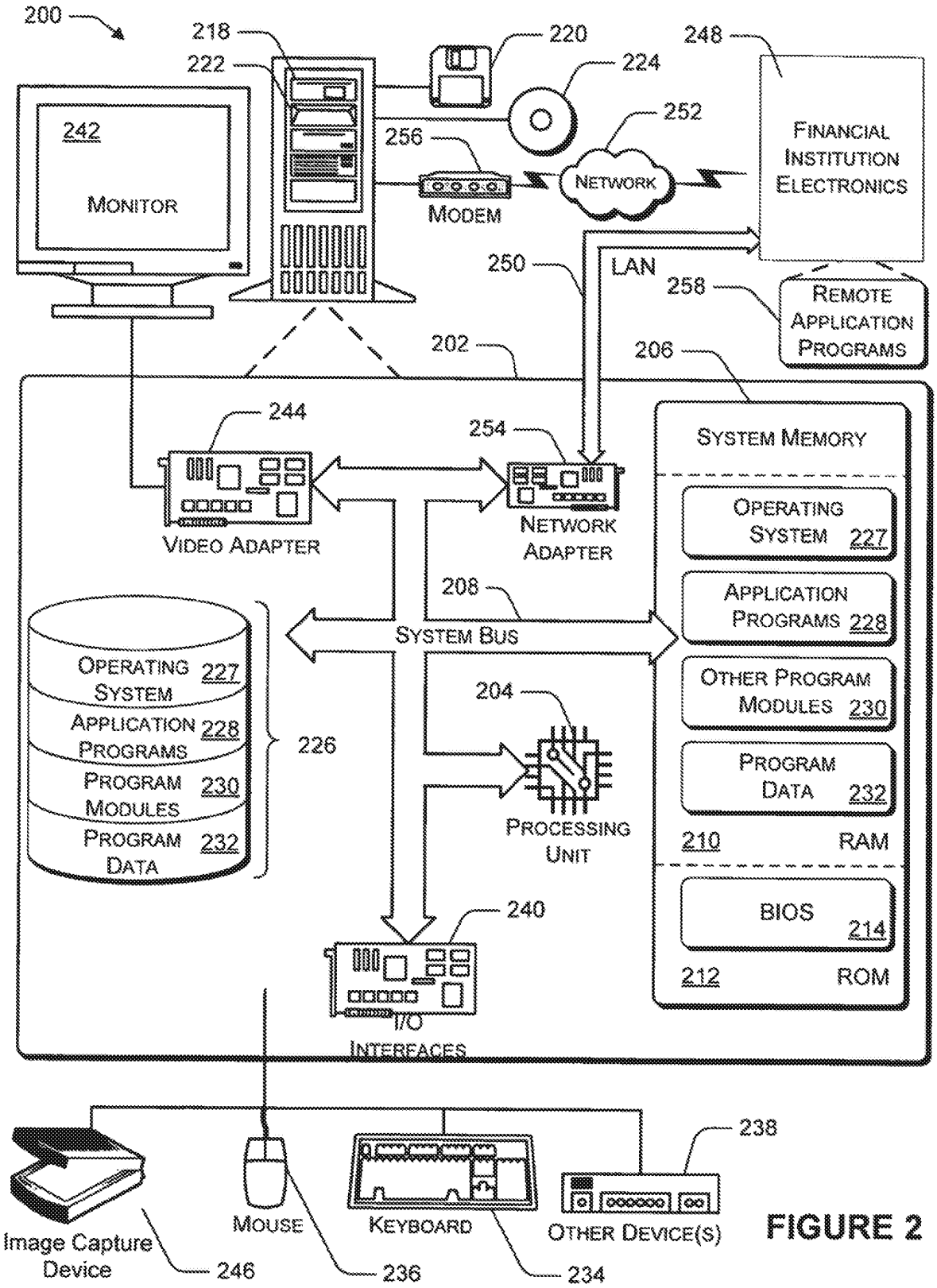

200
218
222
220
224
248
252
256
242
MONITOR
MODEM
NETWORK
FINANCIAL INSTITUTION ELECTRONICS
250
LAN
258
REMOTE APPLICATION PROGRAMS
202
206
244
254
SYSTEM MEMORY
VIDEO ADAPTER
NETWORK ADAPTER
OPERATING SYSTEM 227
APPLICATION PROGRAMS 228
208
SYSTEM BUS
OPERATING SYSTEM 227
APPLICATION PROGRAMS 228
PROGRAM MODULES 230
PROGRAM DATA 232
226
204
OTHER PROGRAM MODULES 230
PROGRAM DATA 232
PROCESSING UNIT
210
RAM
BIOS 214
212
ROM
240
I/O INTERFACES
238
Image Capture Device
246
MOUSE
236
KEYBOARD
234
OTHER DEVICE(S)

FIGURE 2

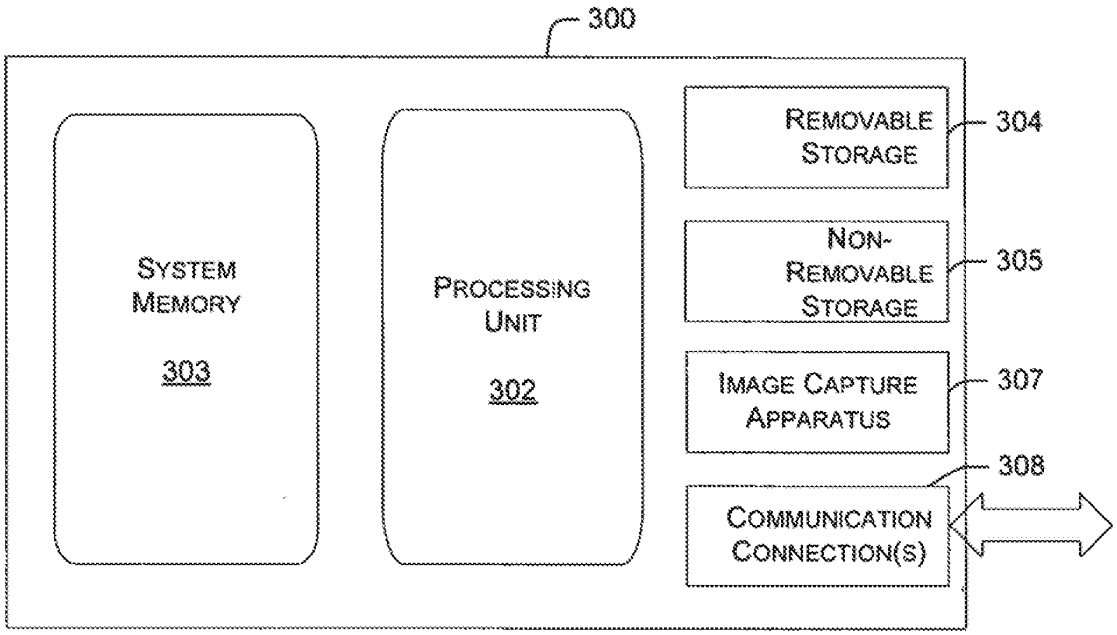

300
SYSTEM MEMORY
303
PROCESSING UNIT
302
REMOVABLE STORAGE
304
NON-REMOVABLE STORAGE
305
IMAGE CAPTURE APPARATUS
307
308
COMMUNICATION CONNECTION(S)

FIGURE 3

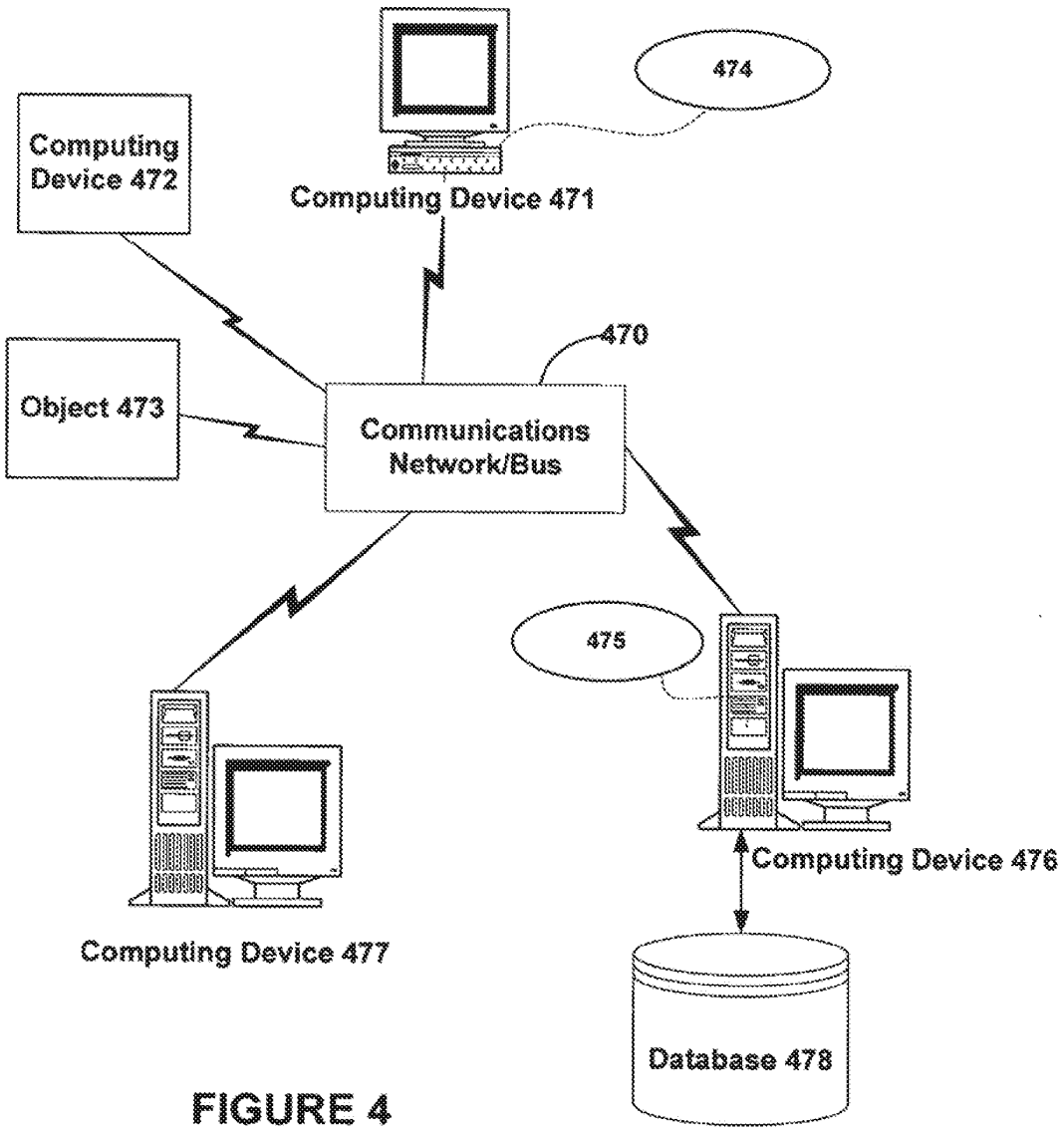

474
Computing Device 472
Computing Device 471
470
Object 473
Communications Network/Bus
475
Computing Device 476
Computing Device 477
Database 478

FIGURE 4

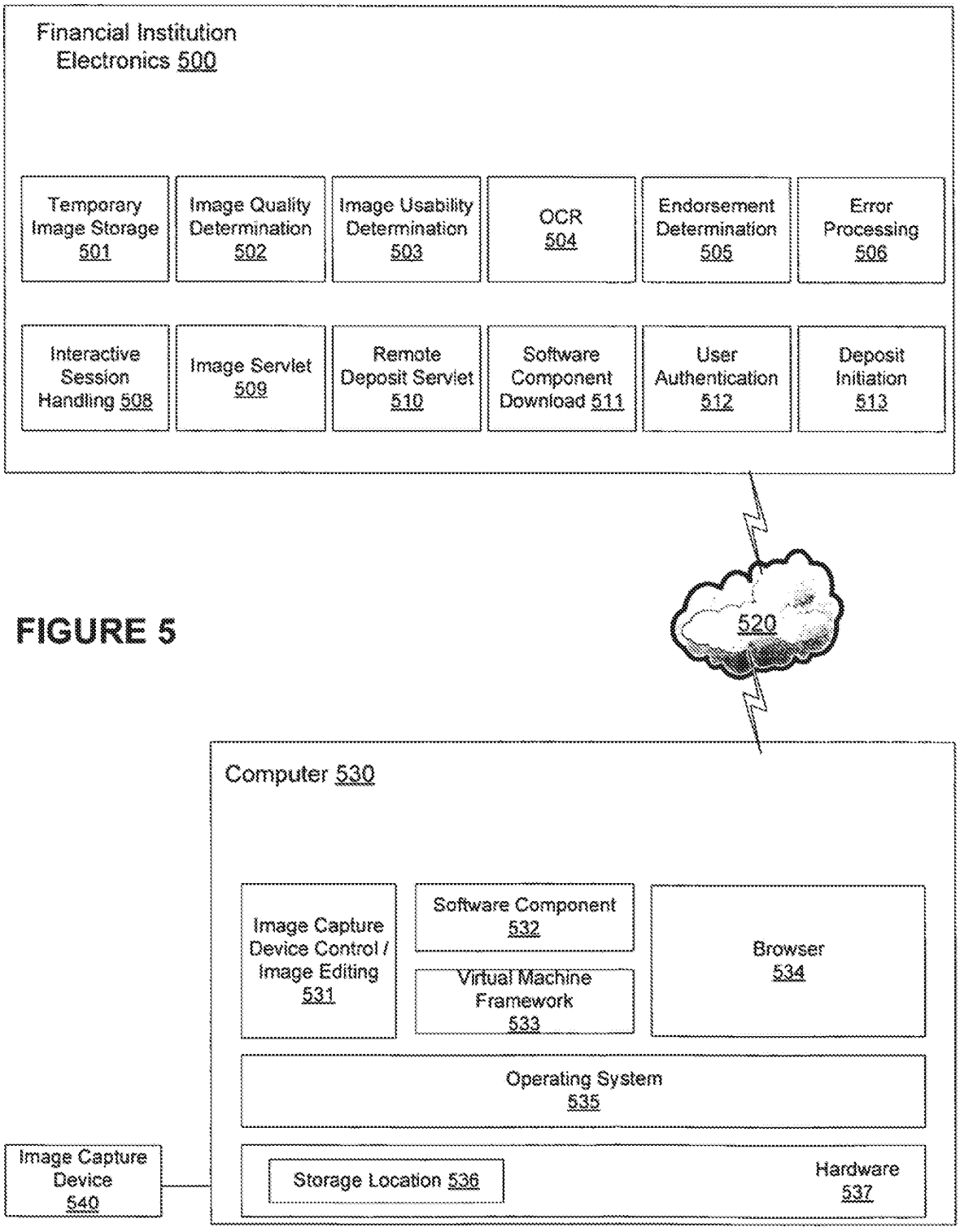

Financial Institution Electronics 500
Temporary Image Storage 501
Image Quality Determination 502
Image Usability Determination 503
OCR 504
Endorsement Determination 505
Error Processing 506
Interactive Session Handling 508
Image Servlet 509
Remote Deposit Servlet 510
Software Component Download 511
User Authentication 512
Deposit Initiation 513
520
Computer 530
Image Capture Device Control / Image Editing 531
Software Component 532
Virtual Machine Framework 533
Browser 534
Operating System 535
Storage Location 536
Hardware 537
Image Capture Device 540

FIGURE 5

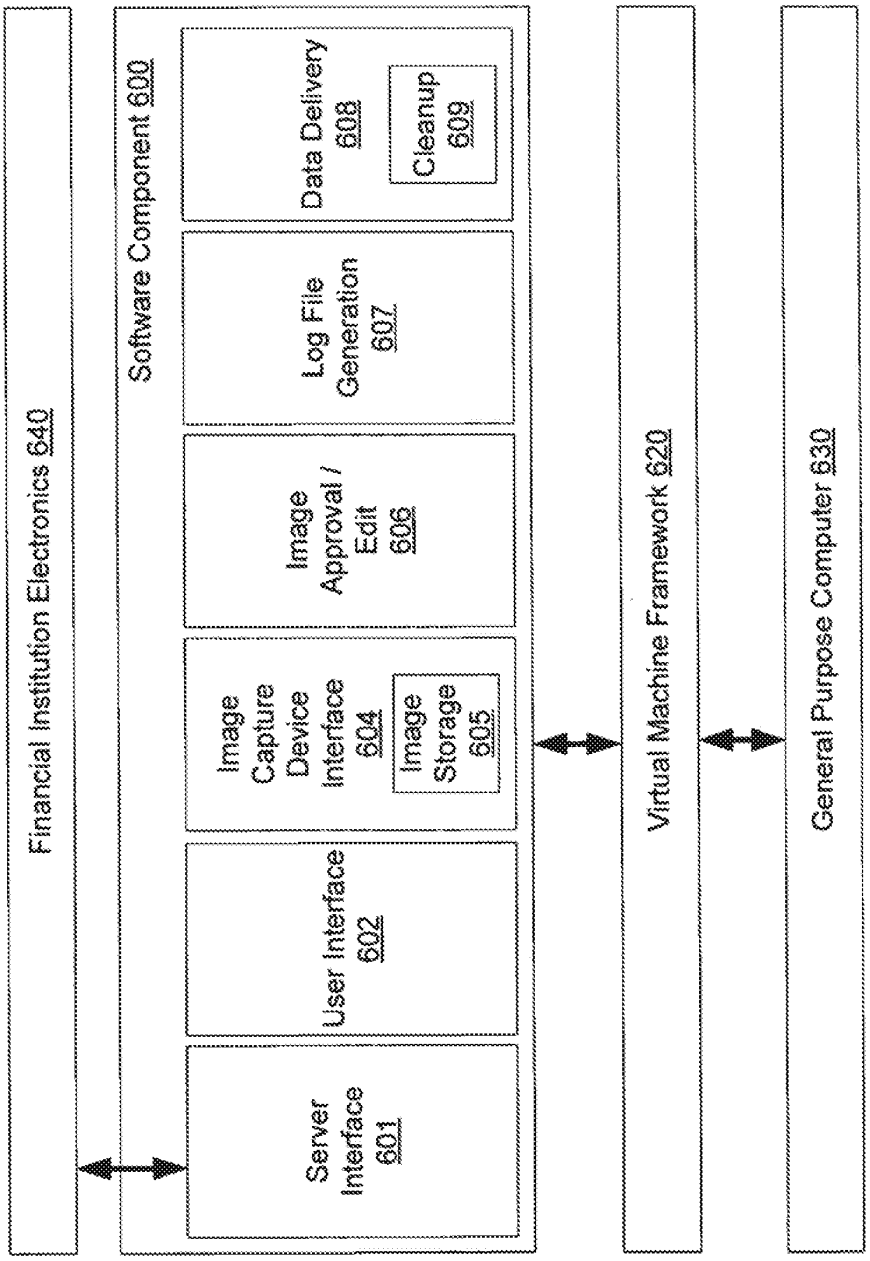

Financial Institution Electronics 640
Software Component 600
Server Interface 601
User Interface 602
Image Capture Device Interface 604
Image Storage 605
Image Approval / Edit 606
Log File Generation 607
Data Delivery 608
Cleanup 609
Virtual Machine Framework 620
General Purpose Computer 630

FIGURE 6

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

Title of Invention	SYSTEMS AND METHODS FOR REMOTE DEPOSIT OF CHECKS

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 14/225,090 filed on March 25, 2014.

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.

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LEGAL NAME OF INVENTOR

Inventor: Charles Lee Oakes, III Date (Optional): 9/2/2014

Signature: Charles Lee Oakes III

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LEGAL NAME OF INVENTOR

Inventor: Randy Ray Morlen Date (Optional) :

Signature:

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LEGAL NAME OF INVENTOR

Inventor: Michael Frank Morris Date (Optional): 9-3-2014

Signature: Michael F. Morris

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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

Title of Invention	SYSTEMS AND METHODS FOR REMOTE DEPOSIT OF CHECKS

As the below named inventor, I hereby declare that:

This declaration is directed to:

- ☐ The attached application, or
- ■ United States application or PCT international application number 14/225,090 filed on March 25, 2014.

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.

WARNING:

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LEGAL NAME OF INVENTOR

Inventor: Reynaldo Medina, III Date (Optional): 9-3-14

Signature: [signature]

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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LEGAL NAME OF INVENTOR

Inventor: Greg Alan Harpel Date (Optional): 9/3/2014

Signature: Greg Harpel

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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LEGAL NAME OF INVENTOR

Inventor: Gabriel Glenn Gavia Date (Optional): 8/4/14

Signature: Gabe Gavia

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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LEGAL NAME OF INVENTOR

Inventor: Bharat Prasad Date (Optional): 09/03/2014

Signature: Bharat Prasad

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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LEGAL NAME OF INVENTOR

Inventor: Jeffrey Neal Pollack Date (Optional): _____

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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LEGAL NAME OF INVENTOR

Inventor: Frank Kyle Major Date (Optional): 09/12/2017

Signature: Frank K Major

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

[X] Practitioners associated with Customer Number: 16530

OR

[ ] Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

[X] The address associated with Customer Number: 16530

OR

[ ]

Firm or individual name		
Address		
City	State	Zip
Country		
Telephone	Email	

Assignee name and address: United Services Automobile Association (USAA)
9800 Fredericksburg Road
San Antonio, TX 78288

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of the practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee.

Signature DW	Date 9/11/17
Name Daniel Wybenga	Telephone
Title Intellectual Property Counsel	

This collection of information is required by 37 CFR 1.31, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public, which is to update (and by the USPTO to process) the file of a patent or reexamination proceeding. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 18 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: United Services Automobile Association (USAA)

Application No./Patent No.: To be Assigned Filed/Issue Date: Herewith

Titled: DIGITAL CAMERA PROCESSING SYSTEM

United Services Automobile Association (USAA), a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 045242, Frame 0420, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

   1. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

   2. From: _____ To: _____

      The document was recorded in the United States Patent and Trademark Office at

      Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

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5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Peter S. Lee/	July 2, 2018
Signature	Date
Peter S. Lee	64,728
Printed or Typed Name	Title or Registration Number

[Page 2 of 2]

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/SB/35 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U. S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

NONPUBLICATION REQUEST UNDER 35 U.S.C. 122(b)(2)(B)(i)		
	First Named Inventor	Charles Lee Oakes
	Title	DIGITAL CAMERA PROCESSING SYSTEM
	Attorney Docket Number	US-0152.09 (14538-649)

I hereby certify that the invention disclosed in the attached application **has not and will not be** the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

I hereby request that the attached application not be published under 35 U.S.C. 122(b).

/Peter S. Lee/	July 2, 2018
Signature	Date
Peter S. Lee	64,728
Typed or printed name	Registration Number, if applicable
312-321-4200	
Telephone Number	

This request must be signed in compliance with 37 CFR 1.33(b) and submitted with the application **upon filing.**

Applicant may rescind this nonpublication request at any time. If applicant rescinds a request that an application not be published under 35 U.S.C. 122(b), the application will be scheduled for publication at eighteen months from the earliest claimed filing date for which a benefit is claimed.

If applicant subsequently files an application directed to the invention disclosed in the attached application in another country, or under a multilateral international agreement, that requires publication of applications eighteen months after filing, the applicant **must** notify the United States Patent and Trademark Office of such filing within forty-five (45) days after the date of the filing of such foreign or international application. **Failure to do so will result in abandonment of this application (35 U.S.C. 122(b)(2)(B)(iii)).**

This collection of information is required by 37 CFR 1.213(a). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
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Doc Code: TRACK1.REQ
Document Description: TrackOne Request

PTO/AIA/424 (04-14)

CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION UNDER 37 CFR 1.102(e) (Page 1 of 1)

First Named Inventor:	Charles Lee Oakes	Nonprovisional Application Number (if known):	To be Assigned
Title of Invention:	DIGITAL CAMERA PROCESSING SYSTEM		

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.

1. The processing fee set forth in 37 CFR 1.17(i)(1) and the prioritized examination fee set forth in 37 CFR 1.17(c) have been filed with the request. The publication fee requirement is met because that fee, set forth in 37 CFR 1.18(d), is currently $0. The basic filing fee, search fee, and examination fee are filed with the request or have been already been paid. I understand that any required excess claims fees or application size fee must be paid for the application.

2. I understand that the application may not contain, or be amended to contain, more than four independent claims, more than thirty total claims, or any multiple dependent claims, and that any request for an extension of time will cause an outstanding Track I request to be dismissed.

3. The applicable box is checked below:

I. ☑ Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)

i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.

---OR---

(b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.

ii. An executed inventor's oath or declaration under 37 CFR 1.63 or 37 CFR 1.64 for each inventor, **or** the application data sheet meeting the conditions specified in 37 CFR 1.53(f)(3)(i) is filed with the application.

II. ☐ Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)

i. A request for continued examination has been filed with, or prior to, this form.
ii. If the application is a utility application, this certification and request is being filed via EFS-Web.
iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.
iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.
v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).

Signature /Peter S. Lee/	Date July 2, 2018
Name (Print/Typed) Peter S. Lee	Practitioner Registration Number 64,728

Note: *This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required.**

☑ *Total of 1 forms are submitted.

Privacy Act Statement

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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
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PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Charles	Lee	Oakes	III

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	San Antonio	State/Province	TX	Country of Residence	US

Mailing Address of Inventor:

Address 1	119 Roadrunner Circle		
Address 2			
City	San Antonio	State/Province	TX
Postal Code	78006	Country i	US

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Randy	Ray	Morlen	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	San Antonio	State/Province	TX	Country of Residence	US

Mailing Address of Inventor:

Address 1	1939 Creek Hollow		
Address 2			
City	San Antonio	State/Province	TX
Postal Code	78259	Country i	US

Inventor 3 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Michael	Frank	Morris	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

City	San Antonio	State/Province	TX	Country of Residence	US

Mailing Address of Inventor:

Address 1	4911 Brandeis Street		
Address 2			
City	San Antonio	State/Province	TX
Postal Code	78249	Country i	US

Remove

Inventor 4

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Reynaldo		Medina	III

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	State/Province	TX	Country of Residence	US

Mailing Address of Inventor:

Address 1	9218 Dublin Heights		
Address 2			
City	San Antonio	State/Province	TX
Postal Code	78254	Country i	US

Remove

Inventor 5

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Greg	Alan	Harpel	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	State/Province	TX	Country of Residence	US

Mailing Address of Inventor:

Address 1	13634 Shady Walk		
Address 2			
City	San Antonio	State/Province	TX
Postal Code	78231	Country i	US

Remove

Inventor 6

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Gabriel	Glenn	Gavia	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	State/Province	TX	Country of Residence	US

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Mailing Address of Inventor:

Address 1	8810 Toulouse		
Address 2			
City	San Antonio	**State/Province**	TX
Postal Code	78240	**Country**	US

Inventor 7 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Bharat		Prasad	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	**State/Province**	TX	**Country of Residence**	US

Mailing Address of Inventor:

Address 1	114 Sable Heights		
Address 2			
City	San Antonio	**State/Province**	TX
Postal Code	78258	**Country**	US

Inventor 8 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Frank	Kyle	Major	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	**State/Province**	TX	**Country of Residence**	US

Mailing Address of Inventor:

Address 1	25135 Callaway		
Address 2			
City	San Antonio	**State/Province**	TX
Postal Code	78260	**Country**	US

Inventor 9 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Jeffrey	Neal	Pollack	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	San Antonio	**State/Province**	TX	**Country of Residence**	US

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Mailing Address of Inventor:			
Address 1	12503 Bear Trail		
Address 2			
City	San Antonio	State/Province	TX
Postal Code	78249	Country i	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	16530		
Email Address	officeactions@brinksgilson.com	Add Email	Remove Email

Application Information:

Title of the Invention	DIGITAL CAMERA PROCESSING SYSTEM		
Attorney Docket Number	US-0152.09 (14538-649)	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	6	Suggested Figure for Publication (if any)	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☒ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	(●) Customer Number	( ) US Patent Practitioner	( ) Limited Recognition (37 CFR 11.9)
Customer Number	16530		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
TBA	Continuation of	15663284	2017-07-28
Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
TBA	Continuation of	14225090	2014-03-25
Prior Application Status	Patented		Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14225090	Continuation of	11590974	2006-10-31	8708227	2014-04-29

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	US-0152.09 (14538-649)
	Application Number	
Title of Invention	DIGITAL CAMERA PROCESSING SYSTEM	

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Remove Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.