

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA/82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	Unassigned
Filing Date	Herewith
First Named Inventor	Lawrence Kates
Title	Relaying Communications in a Wireless Sensor System
Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	563800USCON19

SIGNATURE of Applicant or Patent Practitioner			
Signature	/Matthew Johnson/	Date (Optional)	May 13, 2018
Name	Matthew Johnson	Registration Number	72,299
Title (if Applicant is a juristic entity)	Attorney of Record		
Applicant Name (if Applicant is a juristic entity)		Google LLC	
<p>NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.</p>			
<input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.			

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. 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 3 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.

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☒ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

149118

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☒ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

☐ Firm or Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Google LLC

☐ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature

Jeremiah Chan

Date (Optional)

10/2/2017

Name

Jeremiah Chan

Title

Assistant Secretary of Google LLC

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. 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 3 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.

Doc Code: FAI.REQ

Document Description: Request First Action Interview

PTO/SB/413C (05-11)

Approved for use through 01/31/2013. OMB 0851-0031

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.

REQUEST FOR FIRST ACTION INTERVIEW (FULL PILOT PROGRAM)		
Attorney Docket Number: 563800USCON19	Application Number (if known): Unassigned	Filing date: Herewith
First Named Inventor: Lawrence Kates	Title: Relaying Communications in a Wireless Sensor System	
<p>APPLICANT HEREBY REQUESTS A FIRST ACTION INTERVIEW IN THE ABOVE-IDENTIFIED APPLICATION. See Instruction Sheet on page 2.</p> <p>1. The application must contain three (3) or fewer independent claims and twenty (20) or fewer total claims.</p> <p>2. The application must not contain any multiple dependent claims.</p> <p>3. By filing this request:</p> <p>Applicant is agreeing to make an election without traverse if the Office determines that the claims are not obviously directed to a single invention; and</p> <p>Applicant is agreeing not to request for a refund of the search fee and any excess claims fee paid in the application after the mailing or notification of the pre-interview communication prepared by the examiner.</p> <p>4. Other attachments: _____</p>		
Signature /Matthew Johnson/		Date May 13, 2018
Name (Print/Typed) Matthew Johnson		Registration Number 72,299
<p>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, see below*.</p>		
<p><input type="checkbox"/> *Total of <u>1</u> forms are submitted.</p>		

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 hours 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.

Instruction Sheet for Request for First Action Interview (Full Pilot Program)
(Not to be Submitted to the USPTO)

A grantable request must meet the following conditions:

1. The application must be a new non-reissue utility application filed under 35 U.S.C. 111(a) or an international application that has entered the national stage in compliance with 35 U.S.C. 371(c).
2. The application must contain three (3) or fewer independent claims and twenty (20) or fewer total claims. The application may not contain any multiple dependent claims.
3. The request must be filed electronically using the Office's electronic filing system, EFS-Web.
4. The claims must be directed to a single invention. If the Office determines that the claims are directed to multiple inventions (*e.g.*, in a restriction requirement), the applicant must make an election without traverse.
5. The request must be filed at least one day before a first Office action on the merits of the application appears in the Patent Application Information Retrieval (PAIR) system (*i.e.*, at least one day prior to the date when a first Office action on the merits, notice of allowability or allowance, or action under Ex parte Quayle, 1935 Dec. Comm'r Pat. 11 (1935) appears in the PAIR system). Applicant may check the status of the application using the PAIR system.
6. The request for a first action interview must include a statement that applicant agrees not to file a request for a refund of the search fee and any excess claims fees paid in the application after the mailing or notification of the Pre-Interview Communication. Any petition for express abandonment under 37 CFR 1.138(d), and request for a refund of the search fee and any excess claims fees, filed after the mailing or notification of the Pre-Interview Communication will not be granted.

For more information, see notice "Full First Action Interview Pilot Program" available on the USPTO web site at http://www.uspto.gov/patents/init_events/faipp_full.jsp

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.

Doc Code: FAI.REQ

Document Description: Request First Action Interview

PTO/SB/413C (05-11)

Approved for use through 01/31/2013. OMB 0851-0031

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.

REQUEST FOR FIRST ACTION INTERVIEW (FULL PILOT PROGRAM)

Attorney Docket Number: 563800USCON19	Application Number (if known): Unassigned	Filing date: Herewith
First Named Inventor: Lawrence Kates	Title: Relaying Communications in a Wireless Sensor System	

APPLICANT HEREBY REQUESTS A FIRST ACTION INTERVIEW IN THE ABOVE-IDENTIFIED APPLICATION. See Instruction Sheet on page 2.

1. The application must contain three (3) or fewer independent claims and twenty (20) or fewer total claims.
2. The application must not contain any multiple dependent claims.
3. By filing this request:

Applicant is agreeing to make an election without traverse if the Office determines that the claims are not obviously directed to a single invention; and

Applicant is agreeing not to request for a refund of the search fee and any excess claims fee paid in the application after the mailing or notification of the pre-interview communication prepared by the examiner.

4. Other attachments: _____

Signature /Matthew Johnson/	Date May 13, 2018
Name (Print/Typed) Matthew Johnson	Registration Number 72,299
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, see below*.	
<input type="checkbox"/> *Total of <u>1</u> forms are submitted.	

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 hours 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.

Instruction Sheet for Request for First Action Interview (Full Pilot Program)
(Not to be Submitted to the USPTO)

A grantable request must meet the following conditions:

1. The application must be a new non-reissue utility application filed under 35 U.S.C. 111(a) or an international application that has entered the national stage in compliance with 35 U.S.C. 371(c).
2. The application must contain three (3) or fewer independent claims and twenty (20) or fewer total claims. The application may not contain any multiple dependent claims.
3. The request must be filed electronically using the Office's electronic filing system, EFS-Web.
4. The claims must be directed to a single invention. If the Office determines that the claims are directed to multiple inventions (*e.g.*, in a restriction requirement), the applicant must make an election without traverse.
5. The request must be filed at least one day before a first Office action on the merits of the application appears in the Patent Application Information Retrieval (PAIR) system (*i.e.*, at least one day prior to the date when a first Office action on the merits, notice of allowability or allowance, or action under Ex parte Quayle, 1935 Dec. Comm'r Pat. 11 (1935) appears in the PAIR system). Applicant may check the status of the application using the PAIR system.
6. The request for a first action interview must include a statement that applicant agrees not to file a request for a refund of the search fee and any excess claims fees paid in the application after the mailing or notification of the Pre-Interview Communication. Any petition for express abandonment under 37 CFR 1.138(d), and request for a refund of the search fee and any excess claims fees, filed after the mailing or notification of the Pre-Interview Communication will not be granted.

For more information, see notice "Full First Action Interview Pilot Program" available on the USPTO web site at http://www.uspto.gov/patents/init_events/faipp_full.jsp

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.

**CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION
UNDER 37 CFR 1.102(e) (Page 1 of 1)**

First Named Inventor:	Lawrence Kates	Nonprovisional Application Number (if known):	
Title of Invention:	Relaying Communications in a Wireless Sensor 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), the prioritized examination fee set forth in 37 CFR 1.17(c), and if not already paid, the publication fee set forth in 37 CFR 1.18(d) have been filed with the request. The basic filing fee, search fee, examination fee, and any required excess claims and application size fees are filed with the request or have been already been paid.
2. The application contains or is amended to contain no more than four independent claims and no more than thirty total claims, and no multiple dependent claims.
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 oath or declaration under 37 CFR 1.63 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 /Matthew Johnson/	Date May 13, 2018
Name (Print/Typed) Matthew Johnson	Practitioner Registration Number 72,299
Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required in accordance with 37 CFR 1.33 and 11.18. Please see 37 CFR 1.4(d) for the form of the signature. If necessary, submit multiple forms for more than one signature, see below*.	
<input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.	

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.

S/N Unassigned

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventorship:	Lawrence Kates	Examiner:	Unassigned
Serial No.:	Unassigned	Group Art Unit:	Unassigned
Filed:	Herewith	Docket:	563800USCON19
Title:	Relaying Communications in a Wireless Sensor System		

INFORMATION DISCLOSURE STATEMENT

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

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 et. seq., the referenced materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication.

Pursuant to 37 C.F.R. § 1.97(b), it is believed that no fee or statement is required with the Information Disclosure Statement. However, if an Office Action on the merits has been mailed, the Commissioner is hereby authorized to charge the required fees to Deposit Account No. 60-1804, in order to have this Information Disclosure Statement considered.

Pursuant to 37 C.F.R. § 1.98(d), copies of the listed documents are not provided as these references were previously cited by or submitted to the U.S. Patent Office in connection with Applicants' prior U.S. application, Serial No. 15/841,127, filed on December 13, 2017, or referenced to be provided in an earlier priority filing which is relied upon for an earlier filing date under 35 U.S.C. § 120.

Respectfully submitted,

Lawrence Kates

By their Representatives,

Date May 13, 2018

By /Matthew Johnson/
Matthew Johnson
Reg. No. 72,299

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

U.S. PATENTS						
Exa min er Initi al*	Cite No	Patent Number	Kind Code 1	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		2101637		1937-12-07	Davis	
		2233297		1941-02-25	Polin et al.	
		3805265		1974-04-16	Lester	
		4056780		1977-11-01	Faulkner, Thomas E.	
		4061442		1977-12-06	Clark et al.	
		4099168		1978-07-04	Kedjierski et al.	
		4136823		1979-01-30	Kullberg, Bengt G.	
		4165024		1979-08-21	Oswalt et al.	
		4226533		1980-10-07	Snowman	
		4266220		1981-05-05	Malinsowski	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		4400694		1983-08-23	Wong et al.	
		4420746		1983-12-13	Malinowski	
		4437336		1984-03-20	Abe	
		4455553		1984-06-19	Johnson	
		4514720		1985-04-30	Oberstein et al.	
		4535450		1985-08-13	Tan	
		4543570		1985-09-24	Bressett et al.	
		4556873		1985-12-03	Yamada et al.	
		4613990		1986-09-23	Halpem	
		4652859		1987-03-24	Van Wienen	
		4661804		1987-04-28	Abel	
		4670739		1987-06-02	Kelly	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		4675661		1987-06-23	Ishii	
		4679742		1987-07-04	Ellis	
		4680583		1987-07-14	Grover	
		4688244		1987-08-18	Hannon et al.	
		4692742		1987-09-08	Raizen et al.	
		4692750		1987-09-08	Murakami et al.	
		4727359		1988-02-23	Yuchi et al.	
		4750197		1988-06-07	Denekamp et al.	
		4772876		1988-09-20	Laud	
		4801856		1989-01-31	Wajima, Hiroki	
		4801865		1989-01-31	Miller et al.	
		4802240		1989-01-31	Yamaguchi et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		4811011		1989-03-07	Sollinger	
		4817131		1989-03-28	Thornborough et al.	
		4817537		1989-04-04	Cripe et al.	
		4827244		1989-05-02	Bellavia et al.	
		4857895		1989-08-15	Kaprelian	
		4862514		1989-08-29	Kedjierski	
		4871999		1989-10-03	Ishii et al.	
		4901316		1990-02-13	Igarashi et al.	
		4916432		1990-04-10	Tice et al.	
		4918690		1990-04-17	Markkula, Jr, Armas C., et al.	
		4939504		1990-07-03	Miller	
		4951029		1990-08-21	Severson	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		4964121		1990-10-16	Moore	
		4977527		1990-12-11	Shaw et al.	
		4996518		1991-02-26	Takahashi et al.	
		5040238		1991-08-13	Comroe et al.	
		5054052		1991-10-01	Nonami	
		5107446		1992-04-21	Shaw et al.	
		5117501		1992-05-26	Childress et al.	
		5129096		1992-07-07	Burns	
		5134644		1992-07-28	Garton et al.	
		5138562		1992-08-11	Shaw et al.	
		5151683		1992-09-29	Takahashi et al.	
		551683		1992-09-29	Takahashi et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5159315		1992-10-27	Takahashi et al.	
		5168262		1992-12-01	Okayama	
		5188143		1993-02-23	Krebs	
		5201061		1993-04-06	Goldberg, Steven J., et al.	
		5210540		1993-05-11	Masumoto	
		5224648		1993-07-06	Simon et al.	
		5229750		1993-07-20	Welch et al.	
		5240022		1993-08-31	Franklin	
		5260687		1993-11-09	Yamauchi et al.	
		5265025		1993-11-23	Hirata	
		5400254		1993-11-23	Hirata	
		5267180		1993-11-30	Okayama	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5281951		1994-01-25	Okayama	
		5295154		1994-03-15	Meier et al.	
		5315291		1994-05-24	Furr	
		5319698		1994-06-07	Glidewell et al.	
		5331637		1994-07-19	Francis et al.	
		5335186		1994-08-02	Tarrant	
		5345224		1994-09-06	Brown	
		5355518		1994-10-11	Kindinger et al.	
		5357241		1994-10-18	Welch	
		5369784		1994-11-29	Nelson	
		5400246		1995-03-21	Wilson et al.	
		5408223		1995-04-18	Guillemot	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5424720		1995-06-13	Kirkpatrick	
		5425051		1995-06-13	Mahany	
		5428964		1995-07-04	Lobdell, Vincent G.	
		5430433		1995-07-04	Shima	
		5432500		1995-07-11	Scripps	
		5442758		1995-08-15	Slingwine et al.	
		5511232		1996-04-23	O'Dea et al.	
		5530433		1996-06-25	Morita	
		5540092		1996-07-30	Handfield, Michael et al.	
		5564626		1996-10-15	Kettler, John P., et al.	
		5565852		1996-10-15	Petlier, Mark A., et al.	
		5565858		1996-10-15	Guthrie	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5568121		1996-10-22	Lamensdorf	
		5574435		1996-11-12	Mochizuki	
		5579306		1996-11-26	Dent	
		5590409		1996-12-31	Sawahashi et al.	
		5596652		1997-01-21	Piatek et al.	
		5604892		1997-02-18	Nuttall et al.	
		5606313		1997-02-25	Allen et al.	
		5627515		1997-05-06	Anderson	
		5640151		1997-06-17	Reis et al.	
		5652751		1997-07-29	Sharony	
		5655561		1997-08-12	Wendel et al.	
		5682379		1997-10-28	Mahany et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5686902		1997-11-11	Reis, Robert S., et al.	
		5719556		1998-02-17	Albin et al.	
		5723848		1998-03-03	Bilenko, George et al.	
		5732007		1998-03-24	Grushin, Anatoly et al.	
		5732077		1998-03-24	Whitehead	
		5736928		1998-04-07	Tice et al.	
		5478092		1998-05-05	Arsenault et al.	
		5748092		1998-05-05	Arsenault et al.	
		5761195		1998-06-02	Lu et al.	
		5790946		1998-08-04	Rotzoll, Robert R.	
		5793882		1998-08-11	Piatek et al.	
		5802274		1998-09-01	Dorak, John et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5833910		1998-11-10	Teixido	
		5854994		1998-12-29	Canada et al.	
		5859536		1999-01-12	Stockton	
		5862803		1999-01-26	Besson	
		5881951		1999-03-16	Carpenter	
		5889468		1999-03-30	Banga	
		5890054		1999-03-30	Lodgson et al.	
		5892441		1999-04-06	Woolley et al.	
		5892758		1999-04-06	Argyroudis	
		5898374		1999-04-27	Schepka	
		5907491		1999-05-25	Canada et al.	
		5913180		1999-06-15	Ryan	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5914656		1999-06-22	Ojala, Roy et al.	
		5917423		1999-06-29	Duvall	
		5917433		1999-06-29	Keillor et al.	
		5923102		1999-07-13	Koenig et al.	
		5939982		1999-08-17	Gagnon et al.	
		5943610		1999-08-24	Endo	
		5949332		1999-09-07	Kim	
		5950124		1999-09-07	Trompower et al.	
		5959529		1999-09-28	Kail, IV	
		5959568		1999-09-28	Woolley, Louis A.	
		5966079		1999-10-12	Tanguay, William P.	
		5973603		1999-10-26	Judy, Leroy H.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5974236		1999-10-26	Sherman, Michael J.	
		5977913		1999-11-02	Christ	
		6005884		1999-12-21	Cook et al.	
		6006100		1999-12-21	Koenck et al.	
		6025788		2000-02-02	Diduck	
		6023476		2000-02-08	Lo, William	
		6031455		2000-02-29	Grube et al.	
		6046675		2000-04-04	Hanna, Robert L.	
		6049273		2000-04-11	Hess	
		6060994		2000-05-09	Chen	
		6072784		2000-06-06	Agrawal et al.	
		6075451		2000-06-13	Lebowitz et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6078050		2000-06-20	Castleman	
		6078269		2000-06-20	Markwell et al.	
		6078785		2000-06-20	Bush, E W.	
		6078789		2000-06-20	Bodenmann et al.	
		6084522		2000-07-04	Addy	
		6091724		2000-07-18	Chandra et al.	
		6097288		2000-08-01	Koepppe, Jr, Eugene C.	
		6097707		2000-08-01	Hodzic et al.	
		6104512		2000-08-15	Batey et al.	
		6108544		2000-08-22	Dorenbosch, Jheroen P., et al.	
		6108614		2000-08-22	Lincoln, Larry A., et al.	
		6111511		2000-08-29	Sivathanu et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6118988		2000-09-12	Choi	
		6124806		2000-09-26	Cunningham et al.	
		6125306		2000-09-26	Shimada et al.	
		6127928		2000-10-03	Issacman	
		6127976		2000-10-03	Boyd et al.	
		6134587		2000-10-17	Okanoue	
		6134589		2000-10-17	Hultgren, A.	
		6154658		2000-11-28	Caci, Joseph C.	
		6157307		2000-12-05	Hardin	
		6175310		2001-01-16	Gott	
		6192400		2001-02-20	Hanson et al.	
		6198913		2001-03-06	Sung et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6201974		2001-03-13	Lietsalmi et al.	
		6208247		2001-03-27	Agre et al.	
		6215404		2001-04-10	Morales	
		6225894		2001-05-01	Kyrtsos, Christos T.	
		6239690		2001-05-29	Burbidge et al.	
		6246882		2001-06-12	Lachance, Matthieu	
		6256303		2001-07-03	Drakoulis et al.	
		6281840		2001-08-28	Miyoshi, Kenichi et al.	
		6313646		2001-11-06	Davis et al.	
		6313745		2001-11-06	Suzuki	
		6320501		2001-11-20	Tice et al.	
		6354493		2002-03-12	Mon, Jorge	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6360169		2002-03-19	Dudaney	
		6366217		2002-04-02	Cunningham et al.	
		6369714		2002-04-09	Walter	
		6377181		2002-04-23	Kroll et al.	
		6380860		2002-04-30	Goetz	
		6381467		2002-04-30	Hill et al.	
		6388399		2002-05-14	Eckel et al.	
		6404082		2002-06-11	Rasinski et al.	
		6405102		2002-06-11	Swartz et al.	
		6409082		2002-06-25	Davis et al.	
		6418299		2002-07-09	Ramanathan	
		6420973		2002-07-16	Acevedo	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6421539		2002-07-16	Jeong, Jin-soo	
		6421731		2002-07-16	Ciotti, Frank et al.	
		6424260		2002-07-23	Maloney	
		6424264		2002-07-23	Giraldin et al.	
		6427913		2002-08-06	Maloney	
		6437692		2002-08-20	Petite et al.	
		6441731		2002-08-27	Hess	
		6445292		2002-09-03	Jen et al.	
		6452493		2002-09-17	Ma, Xiqing et al.	
		6453687		2002-09-24	Sharood et al.	
		6473607		2002-10-29	Shohara et al.	
		6476708		2002-11-05	Johnson	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6480149		2002-11-12	Twitchell, Robert	
		6481222		2002-11-19	Denniston	
		6489895		2002-12-03	Apelman	
		6512478		2003-01-28	Chien	
		6515283		2003-02-04	Castleman et al.	
		6519509		2003-02-11	Nierlich et al.	
		6526807		2003-03-04	Doumit et al.	
		6529142		2003-03-04	Yeh et al.	
		6535110		2003-03-18	Arora et al.	
		6542114		2003-04-04	Eagleson et al.	
		6547137		2003-04-15	Begelfer et al.	
		6552647		2003-04-22	Thiesen et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6553336		2003-04-22	Johnson et al.	
		6559620		2003-05-06	Zhou et al.	
		6583720		2003-06-24	Quigley	
		6587755		2003-07-01	Smith et al.	
		6600418		2003-07-29	Francis et al.	
		6601016		2003-07-29	Brown, Michael W.	
		6611556		2003-08-26	Koener et al.	
		6614349		2003-09-02	Proctor et al.	
		6615658		2003-09-09	Snelling	
		6617962		2003-09-09	Horwitz et al.	
		6619055		2003-09-16	Addy	
		6624750		2003-09-23	Marman, Douglas et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6628835		2003-09-30	Brill, Frank Z., et al.	
		6639517		2003-10-28	Chapman et al.	
		6665585		2003-12-16	Kawase	
		6666086		2003-12-23	Colman et al.	
		6679400		2004-01-20	Goodman	
		6690657		2004-02-10	Lau, Kam Y., et al.	
		6693907		2004-02-17	Wesley, Joseph S., et al.	
		6700533		2004-03-02	Werb et al.	
		6800533		2004-03-02	Werb	
		6704681		2004-03-09	Nassof et al.	
		6714977		2004-03-30	Fowler et al.	
		6717507		2004-04-06	Bayley, Oliver T., et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6720888		2004-04-13	Eagleson et al.	
		6731215		2004-05-04	Harms et al.	
		6735630		2004-05-11	Gelvin, David C., et al.	
		6737974		2004-05-18	Dickinson	
		6744740		2004-06-01	Chen, Priscilla	
		6745027		2004-06-01	Twitchell et al.	
		6747558		2004-06-08	Thorne et al.	
		6747562		2004-06-08	Giraldin et al.	
		6748804		2004-06-15	Lisec et al.	
		6753775		2004-06-22	Auerbach et al.	
		6759956		2004-07-06	Menard et al.	
		6760578		2004-07-06	Rotzoll	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6761312		2004-07-13	Piatek et al.	
		6765484		2004-07-20	Eagleson et al.	
		20040143750		2004-07-22	Kulack, Frederick et al.	
		6789220		2004-09-07	Lovejoy	
		6789739		2004-09-14	Rosen	
		6796187		2004-09-28	Srinivasan, Regaswamy et al.	
		6798220		2004-09-28	Flanigan et al.	
		6799210		2004-09-28	Gentry, William D., et al.	
		6803728		2004-10-12	Balasubramaniam, Gnanagiri et al.	
		6825777		2004-11-01	Vock et al.	
		6816063		2004-11-09	Kubler et al.	
		6825758		2004-11-30	Laitsaari, Juha M.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6826948		2004-12-07	Bhatti et al.	
		6847892		2005-01-25	Zhou, Peter	
		6851621		2005-02-08	Wacker et al.	
		6870476		2005-03-22	Cockburn et al.	
		6874037		2005-03-29	Abram, Philip M., et al.	
		6882274		2005-04-19	Richardson et al.	
		6891470		2005-05-10	Bohinc, Jerry	
		6891838		2005-05-10	Petite et al.	
		6892751		2005-05-17	Sanders	
		6900731		2005-05-31	Kriener	
		6909921		2005-06-21	Bilger, Brent	
		6919803		2005-07-19	Breed	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6927688		2005-08-09	Tice	
		6930596		2005-08-16	Kulesz, Jamies J., et al.	
		6934540		2005-08-23	Twitchell et al.	
		6935570		2005-08-30	Acker	
		6940392		2005-09-06	Chan et al.	
		6940403		2005-09-06	Kail	
		6965314		2005-11-15	Bohinc, Jerry	
		6972682		2005-12-06	Lareau et al.	
		6975614		2005-12-13	Kennedy	
		6988079		2006-01-17	Or-Bach, Zvi et al.	
		6995676		2006-02-07	Amacher	
		7012529		2006-03-14	Sajkowsky	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7022773		2006-04-04	Albano, Margherita et al.	
		7027773		2006-04-11	McMillin	
		7034683		2006-04-25	Ghazarian, Ohanes	
		7038585		2006-05-02	Hall	
		7042352		2006-05-09	Kates	
		7055759		2006-06-06	Wacker et al.	
		7063667		2006-06-20	Ben-Oren, Ilan et al.	
		7072668		2006-07-04	Chou	
		7088229		2006-08-08	Johnson	
		7098784		2006-08-29	Easley et al.	
		7102504		2006-09-05	Kates	
		7102505		2006-09-05	Kates	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7103016		2006-09-05	Duffy, Darrell et al.	
		7103344		2006-09-05	Menard, Raymond J.	
		7109879		2006-09-19	Stults et al.	
		7126470		2006-10-24	Clift et al.	
		7133704		2006-11-07	Twitchell, Robert W.	
		7135965		2006-11-14	Chapman et al.	
		7142107		2006-11-28	Kates	
		7142121		2006-11-28	Chan et al.	
		7142123		2006-11-28	Kates	
		7148800		2006-12-12	Cunningham	
		7148803		2006-12-12	Bandy	
		7155238		2006-12-26	Katz	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7155264		2006-12-26	Twitchell et al.	
		7191934		2007-03-20	Miller et al.	
		7196622		2007-03-27	Lambright	
		7200132		2007-04-03	Twitchell et al.	
		7209037		2007-04-24	Webb	
		7209468		2007-04-24	Twitchell et al.	
		7209771		2007-04-24	Twitchell et al.	
		7212122		2007-05-01	Gloekler	
		7218237		2007-05-15	Kates	
		7221260		2007-05-22	Berezowski, Andrew G.	
		7221668		2007-05-22	Twitchell et al.	
		7228726		2007-06-12	Kates	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7230528		2007-06-12	Kates	
		7230933		2007-06-12	Bahl et al.	
		7233958		2007-06-19	Weng	
		7239238		2007-07-03	Tester et al.	
		7248160		2007-07-24	Mangan, Anthony et al.	
		7253731		2007-08-07	Joao	
		7256505		2007-08-14	Arms, Steven W., et al.	
		7270353		2007-09-18	Sironi et al.	
		7273172		2007-09-25	Olsen	
		7274295		2007-09-25	Koch	
		7277009		2007-10-02	Hall	
		7282944		2007-10-16	Gunn et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7283052		2007-10-16	Bohman	
		7289761		2007-10-30	Mazar, Scott T.	
		7299068		2007-11-20	Halla	
		7313421		2007-12-25	Dejanovic	
		7315281		2008-01-01	Dejanovic	
		7317382		2008-01-08	Pratt	
		7319397		2008-01-15	Chung	
		7323981		2008-01-29	Peel	
		7333015		2008-02-19	Ekstrom	
		7336168		2008-02-26	Kates	
		7339469		2008-03-04	Braun	
		7340260		2008-03-04	McAlexander	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7342496		2008-03-11	Muirhead	
		7342497		2008-03-11	Chung	
		7348875		2008-03-25	Hughes et al.	
		7349803		2008-03-25	Belenkii et al.	
		7349804		2008-03-25	Belenkii	
		7376507		2008-05-20	Daily et al.	
		7378957		2008-05-27	Twitchell et al.	
		7378958		2008-05-27	Twitchell et al.	
		7378959		2008-05-27	Twitchell et al.	
		7378960		2008-05-27	Binding	
		7382251		2008-06-03	Bohman	
		7391321		2008-06-24	Twitchell et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7394358		2008-07-01	Cherry	
		7394361		2008-07-01	Twitchell et al.	
		7394372		2008-07-01	Gloekler	
		7397363		2008-07-08	Joao	
		7411494		2008-08-12	Kates	
		7412876		2008-08-19	Kates	
		7417543		2008-08-26	Bergman	
		7419101		2008-09-02	Kawai	
		7423534		2008-09-09	Dhanjal	
		7423535		2008-09-09	Chung	
		7430437		2008-09-30	Twitchell et al.	
		7434742		2008-10-14	Mueller et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7438334		2008-10-21	Terry et al.	
		7440781		2008-10-21	Beach et al.	
		7460690		2008-12-02	Cohen et al.	
		7469550		2008-12-30	Chapman et al.	
		7482920		2009-01-27	Joao	
		7489244		2009-02-10	August, Jason et al.	
		7515940		2009-04-07	Chen, Ming C., et al.	
		7522568		2009-04-21	Twitchell et al.	
		7526381		2009-04-28	Twitchell	
		7528711		2009-05-05	Kates	
		7528719		2009-05-05	Hopman, Nicholas C., et al.	
		7529547		2009-05-05	Twitchell	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7538656		2009-05-26	Twitchell et al.	
		7538657		2009-05-26	Twitchell et al.	
		7538658		2009-05-26	Twitchell et al.	
		7538672		2009-05-26	Lockyer et al.	
		7539520		2009-05-26	Twitchell et al.	
		7542849		2009-06-02	Twitchell et al.	
		7561057		2009-07-14	Kates	
		7563991		2009-07-21	Clark et al.	
		7571865		2009-08-11	Nicodem et al.	
		7574168		2009-08-11	Twitchell et al.	
		7574300		2009-08-11	Twitchell et al.	
		7579945		2009-08-25	Richter et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7583198		2009-09-01	Kates	
		7583769		2009-09-01	Smith et al.	
		7595727		2009-09-29	Grijalva et al.	
		7600137		2009-10-06	Trappeniers et al.	
		7623028		2009-11-24	Kates	
		7626508		2009-12-01	Kosuge, Roy et al.	
		7703694		2010-04-27	Mueller et al.	
		D614976		2010-05-04	Skafdrup et al.	
		7735118		2010-06-08	Brok et al.	
		7782200		2010-08-24	Fleischmann, Arthur R.	
		7817031		2010-10-19	Kates	
		7837958		2010-11-23	Crapser et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7904209		2011-03-08	Podgorny et al.	
		7907941		2011-03-15	Twitchell	
		7924735		2011-04-12	Sun et al.	
		7940716		2011-05-10	Twitchell, Robert W.	
		7975292		2011-07-05	Corella	
		7986238		2011-07-06	Cho, Joong-Sam	
		7994928		2011-08-09	Richmond	
		8000315		2011-08-16	Doi et al.	
		8016205		2011-09-13	Drew	
		8037022		2011-10-11	Rahman et al.	
		8098166		2012-01-17	Lang	
		8111651		2012-02-07	Twitchell, Robert W.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		8125978		2012-02-28	Lim et al.	
		8165072		2012-04-24	Mooney, Christopher F., et al.	
		8175109		2012-05-08	Nogueira-Nine et al.	
		8188764		2012-05-29	Weiss et al.	
		8228183		2012-07-24	Glenn, Gregory M., et al.	
		8234694		2012-07-31	Youn et al.	
		8255090		2012-08-28	Frader-Thompson et al.	
		8275404		2012-09-25	Berger et al.	
		8391435		2013-03-05	Farley, Matthew J., et al.	
		8462662		2013-06-11	Robins et al.	
		8514758		2013-08-20	De Kimpe et al.	
		8531268		2013-09-10	Ghabra et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		8589174		2013-11-19	Nelson, Kyle S., et al.	
		8605660		2013-12-10	Twitchell, Robert W.	
		8619652		2013-12-31	Singh et al.	
		8954082		2015-02-10	Twitchell, Robert W.	
		9072049		2015-06-30	Farley, Matthew J., et al.	
		9183733		2015-11-10	Kates	
		9286787		2016-03-15	Kates, Lawrence	
		9286788		2016-03-15	Kates, Lawrence	
		9295099		2016-03-22	Twitchell, Robert W., et al.	
		9318015		2016-04-19	Kates, Lawrence	
		9357490		2016-05-31	Kates, Lawrence	
		9386553		2016-07-05	Berger, Thomas R., et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		9412260		2016-08-09	Kates, Lawrence	
		9445367		2016-09-13	Farley, Matthew J., et al.	
		9474023		2016-10-18	Kates, Lawrence	
		9532310		2016-12-27	Farley, Matthew J., et al.	
		9699736		2017-07-04	Farley, Matthew J., et al.	
		9723559		2017-08-01	Kates, Lawrence	
		9860839		2018-01-02	Kates, Lawrence	
		9872249		2018-01-16	Kates, Lawrence	
		9955423		2018-04-24	Kates, Lawrence	
		6798341		2004-09-28	Eckel et al.	

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant
-------------------	---------	--------------------	------------------------	------------------	---	--

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

						Figures Appear
		20010000019		2001-03-15	Bowers et al.	
		20010050550		2001-12-13	Yoshida et al.	
		20020011923		2002-01-01	Cunningham et al.	
		20020005707		2002-01-17	Kerai et al.	
		20020011570		2002-01-31	Castleman	
		20020012323		2002-01-31	Petite, Thomas D., et al.	
		20020030592		2002-03-14	Hakanen et al.	
		20020030596		2002-03-14	Finn et al.	
		20020033759		2002-03-21	Morello	
		20020039896		2002-04-04	Brown	
		20020050632		2002-05-02	Tuttle et al.	
		20020050932		2002-05-02	Rhoades et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20020073646		2002-06-20	Von Gutfeld, Robert J., et al.	
		20020075145		2002-06-20	Hardman et al.	
		20020084414		2002-07-04	Baker et al.	
		20020089434		2002-07-11	Ghazarian	
		20020098861		2002-07-25	Doney et al.	
		20020099567		2002-07-25	Joao	
		20020102979		2002-08-01	Curley, Joseph et al.	
		20020119770		2002-08-29	Twitchell	
		20020124169		2002-09-05	Agrawal et al.	
		20020126005		2002-09-12	Hardman, Gordon E., et al.	
		20020130771		2002-09-19	Osborne, Corwin K., et al.	
		20020130778		2002-09-19	Nicholson	
		20020146985		2002-10-10	Naden	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20020158775		2002-10-31	Wallace, David A.	
		20020186141		2002-12-12	Jen et al.	
		20030008692		2003-01-09	Phelan	
		20030011428		2003-01-16	Yamakawa et al.	
		20030011474		2003-01-16	Ng, Sing K.	
		20030011482		2003-01-16	Harms et al.	
		20030025612		2003-02-06	Holmes, John K., et al.	
		20030037125		2003-02-20	Luman, David J., et al.	
		20030043763		2003-03-06	Grayson, Paul D.	
		20030051023		2003-03-13	Reichel, Bryan S., et al.	
		20030058093		2003-03-27	Dohi et al.	
		20030083064		2003-05-01	Cooper	
		20030114898		2003-06-19	Von Ark, Jeffrey A., et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20030117966		2003-06-26	Chen, Priscilla	
		20030122677		2003-07-02	Kail, Karl A.	
		20030140135		2003-07-24	Okuyama et al.	
		20030141973		2003-07-31	Yeh et al.	
		20030144020		2003-07-31	Challa et al.	
		20030146833		2003-08-07	Johnston, Derek S., et al.	
		20030151513		2003-08-14	Herrmann, ?Falk et al.	
		20030162504		2003-08-28	Sabongi, Gebran et al.	
		20030167391		2003-09-04	Al-Ali, Ammar	
		20030168443		2003-09-11	Dozier, John W.	
		20030179073		2003-09-25	Ghazarian	
		20030182077		2003-09-25	Emord	
		20030185289		2003-10-02	Colmenarez, Antonio et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20030189491		2003-10-09	Ng	
		20030189948		2003-10-09	Sashihara, Toshiyuki	
		20030199247		2003-10-23	Strierner	
		20030202477		2003-10-30	Zhen et al.	
		20030209601		2003-11-13	Chung	
		20030214400		2003-11-20	Mizutani, Masami et al.	
		20030220075		2003-11-27	Baker, Kenneth R., et al.	
		20030228846		2003-12-11	Berliner et al.	
		20030231001		2003-12-18	Bruning	
		20030236077		2003-12-25	Sivard	
		20040007264		2004-01-15	Bootka	
		20040017291		2004-01-29	Hardman, Gordon E., et al.	
		20040019783		2004-01-29	Hawkes, Philip M.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20040021572		2004-02-05	Schoen et al.	
		20040023629		2004-02-05	Klank, Otto	
		20040025018		2004-02-05	Haas, Zygmunt et al.	
		20040041706		2004-03-04	Stratmoen et al.	
		20040041731		2004-03-04	Hisano	
		20040050429		2004-03-18	Aylward, Peter G.	
		20040062224		2004-04-01	Brownrigg et al.	
		20040066271		2004-04-08	Leck, Michael J.	
		20040082296		2004-04-29	Twitchell	
		20040090329		2004-05-13	Hitt	
		20040090924		2004-05-13	Giaimo, Edward C., et al.	
		20040100379		2004-05-27	Boman et al.	
		20040100394		2004-05-27	Hitt	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20040100415		2004-05-27	Veitch et al.	
		20040102864		2004-05-27	Stack, James et al.	
		20040113772		2004-06-17	Chou, Y H.	
		20040119588		2004-06-24	Marks	
		20040121793		2004-06-24	Weigele et al.	
		20040147267		2004-07-09	Hill, Stephen et al.	
		20040135691		2004-07-15	Duron et al.	
		20040137959		2004-07-15	Salzhauer, Michael A., et al.	
		20040142716		2004-07-22	Orlik, Philip et al.	
		20040150516		2004-08-05	Faetanini, Steven E.	
		20040164238		2004-08-26	Xu et al.	
		20040164855		2004-08-26	Okubo, Youichi	
		20040174259		2004-09-09	Peel	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20040176028		2004-09-09	Dibernardo, Anthony J.	
		20040181693		2004-09-16	Milliot, Frederic et al.	
		20040183673		2004-09-23	Nageli	
		20040193876		2004-09-30	Donley, Christopher J., et al.	
		20040198467		2004-10-07	Orlik, Philip et al.	
		20040205781		2004-10-14	Hill, Richard D., et al.	
		20040215532		2004-10-28	Boman et al.	
		20040217858		2004-11-04	Ingley, Herbert et al.	
		20040219930		2004-11-04	Lin, le-Hong	
		20040222884		2004-11-11	Costa, Hilario et al.	
		20040224631		2004-11-11	Davis, Robert A., et al.	
		20040232924		2004-11-25	Hilleary et al.	
		20040233041		2004-11-25	Bohman et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20040233054		2004-11-25	Neff et al.	
		20040233855		2004-11-25	Gutierrez, Jose A., et al.	
		20040233874		2004-11-25	Baker, Kenneth R.	
		20040236645		2004-11-25	Tien, Chih Y.	
		20040246463		2004-12-09	Milinusic	
		20040246903		2004-12-09	Huang, Jian et al.	
		20040263340		2004-12-30	Pearson, Joseph J., et al.	
		20050012601		2005-01-20	Matsubara et al.	
		20050030175		2005-02-10	Wolfe, Daniel G.	
		20050035877		2005-02-17	Kim	
		20050043068		2005-02-24	Shohara et al.	
		20050043907		2005-02-24	Eckel et al.	
		20050046563		2005-03-03	Whitney	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20050053063		2005-03-10	Madhavan	
		20050062605		2005-03-24	Sutphin, Eldon M.	
		20050071358		2005-03-31	Hind, Hugh et al.	
		20050073406		2005-04-07	Easley et al.	
		20050078672		2005-04-14	Caliskan, Alaattin et al.	
		20050087235		2005-04-28	Skorpik	
		20050088299		2005-04-28	Bandy, William R.	
		20050090211		2005-04-28	Lilja et al.	
		20050093702		2005-05-05	Twitchell	
		20050093703		2005-05-05	Twitchell	
		20050099292		2005-05-12	Sajkowsky, James M.	
		20050105841		2005-05-19	Luo et al.	
		20050111428		2005-05-26	Orlik, Philip et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20050116667		2005-06-02	Mueller et al.	
		20050125083		2005-06-09	Kiko	
		20050128067		2005-06-16	Zakrewski	
		20050128080		2005-06-16	Hall et al.	
		20050129034		2005-06-16	Takeyoshi, Haruyuki et al.	
		20050131652		2005-06-16	Corwin et al.	
		20050145018		2005-07-07	Sabata et al.	
		20050146445		2005-07-07	Sieboda et al.	
		20050152318		2005-07-14	Elbatt, Tamer A., et al.	
		20050154527		2005-07-14	Ulrich, Henry B.	
		20050157659		2005-07-21	Huitema	
		20050164633		2005-07-28	Linjama, Jukka et al.	
		20050174236		2005-08-11	Brookner, George M.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20050187867		2005-08-25	Sokolic et al.	
		20050190759		2005-09-01	Lee, Jai-Ho et al.	
		20050194456		2005-09-08	Tessier et al.	
		20050199716		2005-09-15	Shafer et al.	
		20050200475		2005-09-15	Chen, Shin-Jun	
		20050215280		2005-09-29	Twitchell, Robert W.	
		20050226201		2005-10-13	McMillin	
		20050228991		2005-10-13	Schmit, Thomas	
		20050246408		2005-11-03	Chung	
		20050258974		2005-11-24	Mahowald	
		20050261037		2005-11-24	Raghunath et al.	
		20050262923		2005-12-01	Kates	
		20050270151		2005-12-08	Winick	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20050270160		2005-12-08	Chan et al.	
		20050275527		2005-12-15	Kates	
		20050275528		2005-12-15	Kates	
		20050275529		2005-12-15	Kates	
		20050275530		2005-12-15	Kates	
		20050275547		2005-12-15	Kates	
		20060007008		2006-01-12	Kates	
		20060007863		2006-01-12	Naghian, Siamak	
		20060032379		2006-02-16	Kates	
		20060041680		2006-02-23	Proctor, James A., et al.	
		20060059977		2006-03-23	Kates	
		20060063484		2006-03-23	Proctor, James A., et al.	
		20060068832		2006-03-30	Islam, Khaledul M.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20060098592		2006-05-11	Proctor, James A., et al.	
		20060109106		2006-05-25	Braun	
		20060114102		2006-06-01	Chang et al.	
		20060132485		2006-06-22	Milinusic	
		20060135145		2006-06-22	Redi	
		20060146717		2006-07-06	Conner, W S., et al.	
		20060147003		2006-07-06	Archacki et al.	
		20060158326		2006-07-20	Easley et al.	
		20060163422		2006-07-27	Krikorian et al.	
		20060164232		2006-07-27	Waterhouse et al.	
		20060164239		2006-07-27	Loda	
		20060164257		2006-07-27	Giubbini	
		20060187026		2006-08-24	Kochis	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20060202817		2006-09-14	Mackenzie et al.	
		20060206273		2006-09-14	Reichel, Bryan S., et al.	
		20060208099		2006-09-21	Chapman et al.	
		20060239197		2006-10-26	Lieuallen et al.	
		20060255934		2006-11-16	Easley et al.	
		20060256756		2006-11-16	Wakabayashi, Hideji	
		20060267756		2006-11-30	Kates	
		20060268727		2006-11-30	Rangarajan, Anand et al.	
		20060270382		2006-11-30	Lappetelainen et al.	
		20060273896		2006-12-07	Kates	
		20060276161		2006-12-07	Twitchell et al.	
		20060282546		2006-12-14	Reynolds, Patrick A., et al.	
		20060286988		2006-12-21	Blume, Oliver et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20060287008		2006-12-21	Twitchell et al.	
		20070001854		2007-01-04	Chung, Kevin K., et al.	
		20070002792		2007-01-04	Twitchell et al.	
		20070002793		2007-01-04	Twitchell et al.	
		20070004331		2007-01-04	Twitchell et al.	
		20070008408		2007-01-11	Zehavi	
		20070032951		2007-02-08	Tanenhaus et al.	
		20070038787		2007-02-15	Harris et al.	
		20070040673		2007-02-22	Bohine, Jerry	
		20070041333		2007-02-22	Twitchell et al.	
		20070041345		2007-02-22	Yarvis, Mark D., et al.	
		20070043478		2007-02-22	Ehlers et al.	
		20070043807		2007-02-22	Twitchell et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20070044524		2007-03-01	Coutermarsh et al.	
		20070063833		2007-03-22	Kates	
		20070069885		2007-03-29	Twitchell et al.	
		20070090946		2007-04-26	Kates	
		20070099628		2007-05-03	Twitchell et al.	
		20070099629		2007-05-03	Twitchell et al.	
		20070113882		2007-05-24	Meyers	
		20070114295		2007-05-24	Jenkins	
		20070115114		2007-05-24	Meyers	
		20070115115		2007-05-24	Meyers	
		20070115827		2007-05-24	Boehnke, Ralf et al.	
		20070115859		2007-05-24	Meyers	
		20070115902		2007-05-24	Shamoon et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20070118332		2007-05-24	Meyers	
		20070121557		2007-05-31	Sylvain, Dany	
		20070133980		2007-06-14	Meyers	
		20070135179		2007-06-14	Hardman et al.	
		20070139183		2007-06-21	Kates	
		20070139197		2007-06-21	Hopman, Nicholas C.	
		20070147255		2007-06-28	Oyman, Ozgur	
		20070152815		2007-07-05	Meyers	
		20070155327		2007-07-05	Twitchell et al.	
		20070159999		2007-07-12	Twitchell et al.	
		20070195702		2007-08-23	Yuen et al.	
		20070200765		2007-08-30	Meyers	
		20070211076		2007-09-13	Kates	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20070229237		2007-10-04	Kates	
		20070234784		2007-10-11	Kates	
		20070266575		2007-11-22	Nash	
		20070274232		2007-11-29	Axelsson et al.	
		20070291690		2007-12-20	Twitchell et al.	
		20070291724		2007-12-20	Twitchell et al.	
		20080015742		2008-01-17	Kulyk et al.	
		20080027586		2008-01-31	Hern et al.	
		20080059622		2008-03-06	Hite, Thomas D., et al.	
		20080066658		2008-03-20	Muirhead	
		20080094209		2008-04-28	Braun	
		20080099568		2008-05-01	Nicodem et al.	
		20080111692		2008-05-15	Twitchell et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20080112377		2008-05-15	Twitchell et al.	
		20080112378		2008-05-15	Twitchell et al.	
		20080117040		2008-05-22	Peel	
		20080129458		2008-06-05	Twitchell	
		20080141754		2008-06-19	Kates	
		20080142592		2008-06-19	Twitchell et al.	
		20080143484		2008-06-19	Twitchell et al.	
		20080144554		2008-06-19	Twitchell et al.	
		20080151850		2008-06-26	Twitchell et al.	
		20080165749		2008-07-10	Twitchell et al.	
		20080180252		2008-07-31	Vogt, Harald	
		20080212544		2008-09-04	Twitchell et al.	
		20080221737		2008-09-11	Josephson et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20080228904		2008-09-18	Crespo-Dubi, Daniel et al.	
		20080234878		2008-09-25	Joao	
		20080264888		2008-10-30	Zakula et al.	
		20080278310		2008-11-13	Kates	
		20080278315		2008-11-13	Kates	
		20080278316		2008-11-13	Kates	
		20080278342		2008-11-13	Kates	
		20080284590		2008-11-20	Kates	
		20080291844		2008-11-27	Krause	
		20080302172		2008-12-11	Kates	
		20080303654		2008-12-11	Kates	
		20080303897		2008-12-11	Twitchell et al.	
		20080304443		2008-12-11	Twitchell	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20080315596		2008-12-25	Terry et al.	
		20090016308		2009-01-15	Twitchell, Robert	
		20090057427		2009-03-05	Geadelmann et al.	
		20090092082		2009-04-09	Twitchell et al.	
		20090103462		2009-04-23	Twitchell et al.	
		20090104902		2009-04-23	Twitchell et al.	
		20090122737		2009-05-14	Twitchell et al.	
		20090129306		2009-05-21	Twitchell et al.	
		20090135000		2009-05-28	Twitchell et al.	
		20090143918		2009-06-04	Amundson et al.	
		20090146805		2009-06-11	Joao	
		20090153336		2009-06-18	Kates	
		20090161642		2009-06-25	Twitchell et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20090181623		2009-07-16	Twitchell et al.	
		20090194601		2009-08-06	Flohr	
		20090290512		2009-11-26	Twitchell	
		20090295564		2009-12-03	Twitchell	
		20090322510		2009-12-31	Berger et al.	
		20100013635		2010-01-21	Berger et al.	
		20100058450		2010-03-04	Fein et al.	
		20100067420		2010-03-18	Twitchell, Robert	
		20100097969		2010-04-22	De Kimpe, Wim et al.	
		20100141449		2010-06-10	Twitchell, Robert W.	
		20100145865		2010-06-10	Berger et al.	
		20100150122		2010-06-17	Berger et al.	
		20100156608		2010-06-24	Bae et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20100163633		2010-07-01	Barrett et al.	
		20100166113		2010-07-01	Farley et al.	
		20100168924		2010-07-01	Tessier et al.	
		20100199086		2010-08-05	Kuang et al.	
		20100214060		2010-08-26	Twitchell	
		20100214074		2010-08-26	Twitchell, Robert	
		20100214969		2010-08-26	Lamm, Anders et al.	
		20100238036		2010-09-23	Holcombe	
		20110001812		2011-01-06	Kang et al.	
		20110025501		2011-02-03	Kates	
		20110078675		2011-03-31	Van Camp et al.	
		20110119747		2011-05-19	Lambiase	
		20110138044		2011-06-09	Bailey et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20110151837		2011-06-23	WInbush	
		20110176465		2011-07-21	Panta et al.	
		20110282937		2011-11-17	Deshpande et al.	
		20110289320		2011-11-24	Twitchell et al.	
		20120077434		2012-03-29	Royston et al.	
		20120163422		2012-06-28	Lee et al.	
		20120190390		2012-07-26	Reunamaki et al.	
		20120250619		2012-10-04	Twitchell, Robert W.	
		20130016636		2013-01-17	Berger, Thomas R., et al.	
		20130070657		2013-03-21	Farley, Matthew J., et al.	
		20130223420		2013-08-29	Twitchell et al.	
		20140203943		2014-07-24	Kates	
		20140285336		2014-08-25	Kates, Lawrence	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20140308963		2014-10-16	Twitchell et al.	
		20140333423		2014-11-13	Kates, Lawrence	
		20140333434		2014-11-13	Kates, Lawrence	
		20150061892		2015-03-05	Kates, Lawrence	
		20150070192		2015-03-12	Kates, Lawrence	
		20150061868		2015-03-15	Kates, Lawrence	
		20150103747		2015-04-16	Twitchell, Robert W.	
		20150172887		2015-06-18	Petite, Thomas D.	
		20160029315		2016-01-28	Kates, Lawrence	
		20160044597		2016-02-11	Farley, Matthew J., et al.	
		20160219523		2016-07-28	Twitchell, Robert et al.	
		20160247382		2016-08-25	Kates, Lawrence	
		20160267761		2016-09-15	Kates, Lawrence	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20160286490		2016-09-29	Kates, Lawrence	
		20160300183		2016-10-13	Berger, Thomas R., et al.	
		20170041876		2017-02-09	Farley, Matthew J., et al.	
		20170048798		2017-02-16	Twitchell, Robert W., et al.	
		20170245215		2017-08-24	Twitchell, Christopher T.	
		20170257826		2017-09-07	Kates, Lawrence	
		20180098283		2018-04-05	Kates, Lawrence	
		20180110006		2018-04-19	Kates, Lawrence	
		20180115951		2018-04-26	Kates, Lawrence	

FOREIGN PATENT DOCUMENTS

Exa min er Ini tial*	Cite No	Foreign Document Number ³	Country Code ²	K i n d C o d e ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Column s, Lines where Releva nt Passag es or Releva nt	T ⁵
----------------------------------	------------	---	------------------------------	---	------------------	--	--	----------------

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

						Figures Appear	
		231458	GB	1926-01-21	Benzonaftene		
		0070449	EP	1983-01-26	Oberstein, Karla		
		0093463	EP	1983-11-09	Givaty, Michael		
		3415786	DE	1984-11-29	Yamada, Kioshi et al.		
		0346152	EP	1989-12-13	Cairney, James		
		0346152A3	EP	1990-10-03	Cairney, James		
		0467036	EP	1992-01-22	Reis, Robert S., et al.		
		0601820	EP	1994-06-15	Yamada, Daisuke et al.		
		2278471	GB	1994-11-30	Pollock, Martin R.		
		0748083	EP	1996-12-11	Welles, Kenneth B., et al.		
		0748085	EP	1996-12-11	Welles, Kenneth B., et al.		
		0580298	EP	1997-01-26	Wheaton		
		2308947	GB	1997-07-09	Howell, Simon K., et al.		
		9298780	JP	1997-11-18	Fujita, Yuzo		
		9810393	WO	1998-03-12	Canada, Ronald G., et al.		
		0829995	EP	1998-03-18	Riemann, Ernst B., et al.		
		10258189	JP	1998-09-29	Mattinger, Detlef		
		0930492	EP	1999-07-21	Jensen et al.		

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		0441999	EP		1999-08-21	Mannhart, Christian et al.	
		0944014	EP		1999-09-22	Johnson, David A.	
		0021047	WO		2000-04-13	Rutter, Nicholas et al.	
		2388660	CN		2000-07-19	Wenfing, Li	
		0055825	WO		2000-09-21	Petite, Thomas	
		0068907	WO		2000-11-16	Werg, Jay et al.	
		0069186	WO		2000-11-16	Smolentzov, Andre et al.	
		03009631	WO		2003-01-30	Kyohei, Imai	
		2003098175	WO		2003-11-27	Petersen, Michael et al.	
		2004010398	WO		2004-01-29	Kulesz, Jamies J., et al.	
		20040012311	KR		2004-02-11	Cho, Tae G.	
		2004073326	WO		2004-08-26	Tompa, Gary S., et al.	
		2004100763	WO		2004-11-25	Collette et al.	
		2005010837	WO		2005-02-03	Vokey, David E., et al.	
		100509070	KR		2005-08-18	Hong, Jong C., et al.	
		20050102419	KR		2005-10-26	Roh, Young H., et al.	
		2006056174	WO		2006-06-01	Goepfner, Matthias et al.	
		100587735	KR		2006-06-09	Choi, Yong K., et al.	
		1692668	EP		2006-08-23	Lambright, Stephen J., et al.	
		20070005515	KR		2007-01-10	Mo, Chung C., et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20080001235	KR		2008-01-03	Kim, Hyun C., et al.		
		2008054938	WO		2008- 05-08	Stevens, Martin J.		
		2009140669	WO		2009-11-19	Berger, Thomas et al.		
		2009151877	WO		2009-12-17	Robins, David S., et al.		
		1317733	EP		2010-04-14	Anderson, Arthur E., et al.		
		1692599	EP		2013-07-17	Chai, Zong H., et al.		
NON-PATENT LITERATURE DOCUMENTS								
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), 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.					T ⁹	
		"Advisory Action", Application Number 13/555,897, 2014-11-06, 3 pages						
		"Advisory Action", Application Number 14/168,876, 2015-06-10, 3 pages						
		"Advisory Action", Application Number 14/536,108, 2015-09-03, 4 pages						
		"Advisory Action", Application Number 12/353,197, 2012-07-16, 5 pages						

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Application Note Published by Texas Instruments for CC1100/CC2500 Products", Accessed on 12/19/2008, 17 pages	
		"Best Way to Contra/Indoor Molds, Dust Mites, and other Microorganisms: Measuring and Controlling Indoor Humidity [Brochure]", INDOOR HEALTH PRODUCTS, INC. (2001-2002). Layton, Utah: Indoor Health Products, Inc. Retrieved from the Internet: <URL: http://www.relativehumidity-sensor.com > on June 18, 2004, 3 pages	
		"Final Office Action", Application Number 10/856,395, 2006-10-30, 10 pages	
		"Final Office Action", Application Number 14/168,876, 2015-03-18, 10 pages	
		"Final Office Action", Application Number 14/534,848, 2017-01-26, 10 pages	
		"Final Office Action", Application Number 15/590,880, 2/8/18, 11 pages	
		"Final Office Action", Application Number 14/339,234, 2015-08-20, 12 pages	
		"Final Office Action", Application Number 15/161,880, 2016-12-20, 12 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Final Office Action", Application Number 14/548,137, 2015-09-01, 13 pages	
		"Final Office Action", Application Number 14/534,848, 2015-11-23, 13 pages	
		"Final Office Action", Application Number 15/052,172, 2017-02-09, 13 pages	
		"Final Office Action", Application Number 15/161,880, 2017-03-20, 13 pages	
		"Final Office Action", Application Number 11/562,352, 2008-08-21, 14 pages	
		"Final Office Action", Application Number 13/555,897, 2014-08-29, 14 pages	
		"Final Office Action", Application Number 15/090,973, 2016-11-10, 14 pages	
		"Final Office Action", Application Number 12/353,197, 2012-03-23, 15 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Final Office Action", Application Number 14/536,108, 2016-06-13, 16 pages	
		"Final Office Action", Application Number 13/367,341, 2013-02-26, 17 pages	
		"Final Office Action", Application Number 14/298,371, 2015-03-06, 17 pages	
		"Final Office Action", Application Number 14/536,108, 2015-05-26, 18 pages	
		"Final Office Action", Application Number 14/536,108, 11/29/17, 20 pages	
		"Final Office Action", Application Number 14/338,592, 2015-05-29, 22 pages	
		"Final Office Action", Application Number 14/573,625, 2016-12-14, 29 pages	
		"Final Office Action", Application Number 11/314,807, 2007-07-16, 5 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Final Office Action", Application Number 11/314,807, 2008-04-01, 5 pages	
		"Final Office Action", Application Number 12/036,915, 2009-07-08, 5 pages	
		"Final Office Action", Application Number 10/856,395, 2006-04-13, 8 pages	
		"First Action Interview Office Action", Application Number 14/338,592, 2015-03-24, 4 pages	
		"First Action Interview Office Action", Application Number 14/339,234, 2015-03-24, 8 pages	
		"First Action Interview Pre-Interview Communication", Application Number 15/194,148, 07/17/17, 4 pages	
		"First Alert - User's Manual Smoke and Fire Alarm: Battery Powered Photoelectric Smoke Alarm with Silence and Escape Light: Model SA720 [Brochure]", Mexico: First Alert, 2007-01-01, 6 pages	
		"G-Cap 2 Relative Humidity Sensor [Brochure]", GE GENERAL EASTERN INSTRUMENTS - GlobalSpec.com - Retrieved from the Internet: <URL: http://www.globalspec.com/FeaturedProducts/Detail?ExhibitID=1454 > on 06/18/2004, 2 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Impedance Moisture Sensor Technology [Brochure].", MICHELL INSTRUMENTS L TO. Retrieved from the Internet: <URL: http://www.sensorland.com/HowPage029.html > on June 18, 2004, 2 pages	
		"International Preliminary Report on Patentability", Application No. PCT/US2006/026158, 2008-01-17, 9 pages	
		"International Search Report and Written Opinion", Application No. PCT/US2009/044277, 2010-01-27, 13 pages	
		"International Search Report and Written Opinion", Application No. PCT/US2009/044276, 2010-01-11, 7 pages	
		"Mechanical Data Sheet: PT(S-PQFP-G48) Plastic Quad Flatpack, [Brochure].", TEXAS INSTRUMENTS, INC. (1996). Dallas, Texas: Texas Instruments, Inc., 1996-01-01, 2 pages	
		"Non-Final Office Action", Application Number 15/601,705, 06/16/17, 7 pages	
		"Non-Final Office Action", Application Number 12/647,672, 10 pages	
		"Non-Final Office Action", Application Number 11/216,225, 2008-03-04, 10 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Non-Final Office Action", Application Number 11/428,536, 2009-12-24, 10 pages	
		"Non-Final Office Action", Application Number 15/090,973, 2016-06-15, 10 pages	
		"Non-Final Office Action", Application Number 15/161,880, 2016-07-12, 10 pages	
		"Non-Final Office Action", Application Number 12/353,197, 2011-10-06, 11 pages	
		"Non-Final Office Action", Application Number 13/555,897, 2013-12-17, 11 pages	
		"Non-Final Office Action", Application Number 14/534,848, 2017-06-13, 11 pages	
		"Non-Final Office Action", Application Number 15/590,880, 08/11/17, 12 pages	
		"Non-Final Office Action", Application Number 14/338,592, 2015-03-02, 12 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Non-Final Office Action", Application Number 14/534,848, 2016-08-11, 12 pages	
		"Non-Final Office Action", Application Number 12/271,850, 2011-05-11, 13 pages	
		"Non-Final Office Action", Application Number 15/052,172, 2016-07-19, 13 pages	
		"Non-Final Office Action", Application Number 10/948,628, 2006-09-08, 14 pages	
		"Non-Final Office Action", Application Number 11/761,760, 2008-01-16, 15 pages	
		"Non-Final Office Action", Application Number 14/536,108, 2015-12-03, 17 pages	
		"Non-Final Office Action", Application Number 14/536,108, 2017-05-04, 17 pages	
		"Non-Final Office Action", Application Number 14/536,108, 2/22/18, 18 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Non-Final Office Action", Application Number 14/534,848, 2015-06-01, 19 pages	
		"Non-Final Office Action", Application Number 13/367,341, 2012-07-24, 20 pages	
		"Non-Final Office Action", Application Number 12/905,248, 2013-08-30, 20 pages	
		"Non-Final Office Action", Application Number 14/573,625, 2016-05-05, 38 pages	
		"Non-Final Office Action", Application Number 15/194,148, 12/07/17, 4 pages	
		"Non-Final Office Action", Application Number 10/856,231, 2006-04-05, 4 pages	
		"Non-Final Office Action", Application Number 11/145,880, 2006-04-27, 4 pages	
		"Non-Final Office Action", Application Number 11/145,880, 2007-03-01, 4 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Non-Final Office Action", Application Number 14/573,625, 09/21/17, 5 pages	
		"Non-Final Office Action", Application Number 11/314,807, 2007-01-18, 5 pages	
		"Non-Final Office Action", Application Number 11/562,313, 2007-09-05, 5 pages	
		"Non-Final Office Action", Application Number 11/562,352, 2008-01-14, 5 pages	
		"Non-Final Office Action", Application Number 11/748,388, 2008-12-17, 5 pages	
		"Non-Final Office Action", Application Number 10/856,395, 2005-10-03, 6 pages	
		"Non-Final Office Action", Application Number 11/216,225, 2008-07-10, 6 pages	
		"Non-Final Office Action", Application Number 12/036,915, 2008-10-08, 6 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Non-Final Office Action", Application Number 14/875,488, 2015-12-18, 6 pages	
		"Non-Final Office Action", Application Number 10/856,717, 2005-12-14, 7 pages	
		"Non-Final Office Action", Application Number 10/856,717, 2006-05-31, 7 pages	
		"Non-Final Office Action", Application Number 11/494,988, 2009-03-05, 7 pages	
		"Non-Final Office Action", Application Number 12/182,079, 2010-02-26, 7 pages	
		"Non-Final Office Action", Application Number 10/856,390, 2005-12-15, 8 pages	
		"Non-Final Office Action", Application Number 10/856,231, 2005-12-21, 8 pages	
		"Non-Final Office Action", Application Number 11/231,321, 2006-07-24, 8 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Non-Final Office Action", Application Number 12/468,047, 2011-12-13, 8 pages	
		"Non-Final Office Action", Application Number 10/856,387, 2005-12-14, 9 pages	
		"Non-Final Office Action", Application Number 11/233,931, 2006-07-10, 9 pages	
		"Non-Final Office Action", Application Number 14/298,371, 2014-09-09, 9 pages	
		"Non-Final Office Action", Application Number 14/168,876, 2014-09-15, 9 pages	
		"Non-Final Office Action", Application Number 14/168,876, 2014-09-15, 9 pages	
		"Notice of Allowance", Application Number 14/100,357, 2014-09-15, 10 pages	
		"Notice of Allowance", Application Number 11/748,388, 2009-05-19, 12 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Notice of Allowance", Application Number 12/647,672, 2012-11-01, 12 pages	
		"Notice of Allowance", Application Number 14/534,848, 1/24/18, 16 pages	
		"Notice of Allowance", Application Number 10/948,628, 2007-05-03, 2 pages	
		"Notice of Allowance", Application Number 10/856,231, 2006-06-28, 4 pages	
		"Notice of Allowance", Application Number 11/231,321, 2007-03-21, 4 pages	
		"Notice of Allowance", Application Number 11/145,880, 2007-09-21, 4 pages	
		"Notice of Allowance", Application Number 11/314,807, 2008-12-24, 4 pages	
		"Notice of Allowance", Application Number 15/161,880, 09/08/17, 5 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Notice of Allowance", Application Number 15/601,705, 10/05/17, 5 pages	
		"Notice of Allowance", Application Number 13/555,897, 2015-06-08, 5 pages	
		"Notice of Allowance", Application Number 14/298,371, 2015-07-02, 5 pages	
		"Notice of Allowance", Application Number 14/548,137, 2015-12-10, 5 pages	
		"Notice of Allowance", Application Number 13/555,897, 2015-12-17, 5 pages	
		"Notice of Allowance", Application Number 14/168,876, 2016-02-12, 5 pages	
		"Notice of Allowance", Application Number 14/875,488, 2016-04-08, 5 pages	
		"Notice of Allowance", Application Number 15/090,973, 2017-03-16, 5 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Notice of Allowance", Application Number 10/856,387, 2006-06-23, 6 pages	
		"Notice of Allowance", Application Number 10/856,717, 2007-03-13, 6 pages	
		"Notice of Allowance", Application Number 10/948,628, 2007-04-09, 6 pages	
		"Notice of Allowance", Application Number 11/145,880, 2007-07-05, 6 pages	
		"Notice of Allowance", Application Number 11/562,313, 2008-05-23, 6 pages	
		"Notice of Allowance", Application Number 11/761,760, 2008-07-01, 6 pages	
		"Notice of Allowance", Application Number 11/494,988, 2009-07-17, 6 pages	
		"Notice of Allowance", Application Number 12/182,079, 2010-06-23, 6 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Notice of Allowance", Application Number 11/428,536, 2011-02-08, 6 pages	
		"Notice of Allowance", Application Number 10/856,170, 2005-12-13, 7 pages	
		"Notice of Allowance", Application Number 10/856,390, 2006-06-27, 7 pages	
		"Notice of Allowance", Application Number 13/620,171, 2014-02-18, 7 pages	
		"Notice of Allowance", Application Number 14/573,625, 2017-03-28, 7 pages	
		"Notice of Allowance", Application Number 15/841,127, 2/26/18, 8 pages	
		"Notice of Allowance", Application Number 11/233,931, 2006-08-10, 8 pages	
		"Notice of Allowance", Application Number 11/216,225, 2009-03-10, 8 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Notice of Allowance", Application Number 12/271,850, 2011-10-06, 8 pages	
		"Notice of Allowance", Application Number 13/619,681, 2015-03-03, 8 pages	
		"Notice of Allowance", Application Number 14/754,115, 2015-12-24, 8 pages	
		"Notice of Allowance", Application Number 14/754,115, 2016-05-04, 8 pages	
		"Notice of Allowance", Application Number 15/179,350, 2016-08-15, 8 pages	
		"Notice of Allowance", Application Number 14/754,115, 2016-09-20, 8 pages	
		"Notice of Allowance", Application Number 15/248,576, 2017-03-15, 8 pages	
		"Notice of Allowance", Application Number 11/428,536, 2010-07-23, 9 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Notice of Allowance", Application Number 12/468,047, 2012-05-31, 9 pages	
		"Notice of Allowance", Application Number 13/367,341, 2013-08-05, 9 pages	
		"Notice of Allowance", Application Number 14/339,234, 2015-10-27, 9 pages	
		" Pre-Interview First Office Action", Application Number 14/338,592, 2014-10-31, 4 pages	
		" Pre-Interview First Office Action", Application Number 14/339,234, 2014-11-19, 5 pages	
		"Pre-Interview First Office Action", Application Number 15/841,092, 2/9/18, 4 pages	
		"Relative Humidity Information [Brochure]", INDOOR HEALTH PRODUCTS, INC. (2002) Layton, Utah: Indoor Health Products, Inc. Retrieved from the Internet: <URL: http://www.relativehumidity-sensor.com/relative-humidity.html > on June 18, 2004, 6 pages	
		"Response to the Department of Homeland Security and Border Protection Conveyance Security Device Requirements, Version 1.2", TeraHop Networks, Inc, 2007-12-10, 62 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Restriction Requirement", Application Number 11/562,313, 2008-02-22, 5 pages	
		"Restriction Requirement", Application Number 12/468,047, 2011-10-05, 5 pages	
		"Restriction Requirement", Application Number 10/948,628, 2005-12-30, 6 pages	
		"Restriction Requirement", Application Number 11/761,760, 2007-10-11, 6 pages	
		"Restriction Requirement", Application Number 10/948,628, 2006-04-20, 7 pages	
		"Restriction Requirement", Application Number 12/193,641, 2009-04-03, 7 pages	
		"Supplemental Notice of Allowance", Application Number 11/145,880, 2007-12-10, 2 pages	
		"TeraHop Networks - Tradeshow Handouts", MERIT-2030-2040 Gateway Controllers; MERIT-300 Incident Node; MERIT-TL TeraLink System Software, 2006-01-01, 6 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"TeraHop Networks Atlanta Airport Fire-Recuse Project Description of Project Components", TeraHop Networks, 2008-02-07, 11 pages	
		"TeraHop Networks- Documents A Through I, Including Brief Description", 121 pages	
		"TRF6901 Single-Chip RF Transceiver Product Catalog [Brochure].", TEXAS INSTRUMENTS, INC. (2001-2003). Dallas, Texas: Texas Instruments, Inc., 27 pages	
		"Waterbug: Electronic water detection at its best! [Brochure].", WINLAND ELECTRONICS, INC. (2011). Mankato, Minnesota: Winland Electronics Inc. Retrieved from the Internet: <URL:www.winland.com>, 2011-01-01, 1 page	
		"Ways to Prevent Mold Problems [Brochure].", TOXIC BLACK MOLD INFORMATION CENTER. (2002). Layton, Utah: Toxic Black Mold Information Center. Retrieved from the Internet: <URL: http://www.toxic-black-mold-info.com/prevent.html> on June 18, 2004, 12 pages	
		"Website Page Detailing Features of Texas Instruments' Chipcon Products", Accessed on 12/19/2008, 1 page	
		"Written Opinion", Application No. PCT/US06/00868, 2007-04-02, 3 pages	
		"Written Opinion", Application No. PCT/US2006/026158, 2006-11-21, 7 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		BOURKE, TONY, "Server Load Balancing", Sebastopol, California: O'Reilly Associates, 2001-01-01, 182 pages	
		EASLEY, LINDA et al., "Global Container Security System", U.S. Provisional Application Number 60/499,338 - filed 09/03/2003, 27 pages	
		GARCIA-LUNA-ACEVES, J J. , "Source-Tree Routing in Wireless Networks", Proceedings of Seventh International Conference on Network Protocols, 10 pages	
		GIRA, , "Gira Dua/NdS smoke alarm: Double safety by measuring heat and scattered light. [Brochure]", Radevormwald, Germany: GIRA. Retrieved from the Internet: <URL: http://www.gira.de/gebaeudetechnikprodukte/sicherheit/rauchmelder/rauchwarnmelderdualdvs.html > on April 18, 2013,, 7 pages	
		GIRA, , "Gira Dua/VdS smoke alarm: Double safety by measuring heat and scattered light [Brochure]", Radevormwald, Germany: GIRA. Retrieved from the Internet: <URL: http://www.gira.de/gebaeudetechnikprodukte/sicherheit/rauchmelder/rauchwarnmelderdualdvs.html > on April 18, 2013,, 14 pages	
		GIRA, , "Installation and user manual: Smoke alarm device Dua/VdS [Brochure]", Radevormwald, Germany: GIRA. Retrieved from the Internet: <URL: http://download.gira.de/data2/2330121_O.pdf > on April 18, 2013,, 20 pages	
		GU, DANIEL L. et al., "C-ICAMA, A Centralized Intelligent Channel Assigned Multiple Access for Multi-Layer Ad-Hoc Wireless Networks with UAVs", Conference: Wireless Communications and Networking Conference, 2000, pp. 879-884	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		GU, DANIEL L., "Hierarchical Routing for Multi-Layer Ad-Hoc Wireless Networks with UAVs", 21st Century Military Communications Conference Proceedings, 5 pages	
		HAARTSEN, JAAP, "Bluetooth - The Universal Radio Interface for Ad Hoc, Wireless Connectivity", Ericsson Review No.3, 8 pages	
		HAARTSEN, JAAP, "Bluetooth: Vision, Goals, and Architecture", Mobile Computing & Communications Review, vol. 1, No.2, 8 pages	
		HUBAUX, JEAN-PIERRE et al., "Toward Self-Organized Mobile Ad Hoc Networks: The Terminodes Project", IEEE Communications Magazine (Volume: 39, Issue: 1, Jan 2001), 7 pages	
		IWATA, ATSUSHI et al., "Scalable Routing Strategies for Ad hoc Wireless Networks", IEEE Journal on Selected Areas in Communications, 26 pages	
		KESHAVARZIAN, , "Energy-Efficient Link Assessment in Wireless Sensor Networks", Conference on the IEEE computer and Communications Societies, Volume 3, 14 pages	
		KIDDE, , "Battery Operated Smoke Alarm with Hush: Model i9060 [Brochure].", Mebane, North Carolina: Kidde, 2009-01-01, 2 pages	
		LEE, SUNG-JU, "On-Demand Multicast Routing Protocol (ODMRP) for Ad Hoc Networks", Retrieved at: https://tools.ietf.org/html/draft-ietf-manet-odmrp-02 , 29 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		MELODIA, TOMMASO et al., "On the Interdependence of Distributed Topology Control and Geographical Routing in Ad Hoc and Sensor Networks", IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, VOL. 23, NO. 3, pp 520-532	
		MINGLIANG, JIANG et al., "Cluster Based Routing Protocol (CBRP)", Internet-Draft, National University of Singapore, 27 pages	
		MORGAN, GARY , "Miniature Tags Provide Visibility & Cohesion for an LIA Battalion Level 'Proof of Principle'", Pacific NW National Laboratory, 11 pages	
		NAGELI, , "Portable Detachable Self-Contained Tracking Unit for Two-Way Satellite Communication with a Central Server", U.S. Provisional Application Number 60/444,029 - Filed 01/31/2003, 38 pages	
		PEI, GUANGYU et al., "A Wireless Hierarchical Routing Protocol with Group Mobility", Wireless Communications and Networking Conference, 1999-01-21 , 18 pages	
		PEI, GUANGYU et al., "Mobility Management in Hierarchical Multi-Hop Mobile Wireless Networks", Eight International Conference on Computer Communications and Networks Proceedings., 6 pages	
		PERKINS, C E. , "Mobile Ad Hoc Networking Terminology", draft-ietf-manet-term-01.txt - Internet Draft, 1998-11-17 , 10 pages	
		PERKINS, CHARLES E. , "AD HOC NETWORKS", Table of Contents, Chapters 1, 4, and 11, 112 pages	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		RAMANATHAN, RAM et al., "Hierarchically-Organized, Multihop Mobile Wireless Networks for Quality-of-Service Support", Mobile Networks and Applications, 36 pages	
		SHARP, KEVIN, "Physical Reality: A Second Look, Supply Chain Systems", http://www.idsystems.com/reader/1999_03/phys0399_pt2/index.htm , 5 pages	
		SOMMER, BEN, "Group 4, Passive RF Tags", 4 pages	
		STOJMENOVIC, IVAN et al., "Design Guidelines for Routing Protocols in Ad Hoc and Sensor Networks with a Realistic Physical Layer", IEEE Communications Magazine (Volume: 43, Issue: 3, March 2005), 6 pages	
		VALDEVIT, EVIO, "Cascading in Fibre Channel: how to build a multi-switch fabric", Brocade Communications Systems, available at http://www.brocade.com/SAN/white_papers/pdf/Cascading.pdf , 1999-01-01, 13 pages	
		WHITE, et al., "A Conceptual Model for Simulation Load Balancing", Proc. 1998 Spring Simulation Interoperability Workshop, 1998-01-01, 7 pages	
		WOO, ALEC et al., "Taming the Underlying Challenges of Reliable Multihop Routing in Sensor Networks", Proceedings of the 1st international conference on Embedded networked sensor systems, SenSys 2003, 11/05/03, 14 pages	
EXAMINER SIGNATURE			

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

Examiner Signature		Date Considered	
<p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>			
<p>¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.</p>			

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the 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 the information disclosure statement. See 37 CFR 1.97(e) (1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e) (2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Matthew Johnson/	Date (YYYY-MM-DD)	2018-05-13
Name/Print	Matthew Johnson	Registration Number	72,299

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		Relaying Communications in a Wireless Sensor System		
First Named Inventor/Applicant Name:		Lawrence Kates		
Filer:		Michael K. Colby/Travis R. Henderson		
Attorney Docket Number:		563800USCON19		
Filed as Large Entity				
Filing Fees for Track I Prioritized Examination - Nonprovisional Application under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	300	300
UTILITY SEARCH FEE	1111	1	660	660
UTILITY EXAMINATION FEE	1311	1	760	760
REQUEST FOR PRIORITIZED EXAMINATION	1817	1	4000	4000
Pages:				
Claims:				
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
PROCESSING FEE, EXCEPT PROV. APPLS.	1830	1	140	140
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				5860

Electronic Acknowledgement Receipt	
EFS ID:	32607909
Application Number:	15978147
International Application Number:	
Confirmation Number:	1307
Title of Invention:	Relaying Communications in a Wireless Sensor System
First Named Inventor/Applicant Name:	Lawrence Kates
Customer Number:	149118
Filer:	Michael K. Colby/Travis R. Henderson
Filer Authorized By:	Michael K. Colby
Attorney Docket Number:	563800USCON19
Receipt Date:	13-MAY-2018
Filing Date:	
Time Stamp:	13:13:24
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$5860
RAM confirmation Number	051418INTEFSW13160900
Deposit Account	601804
Authorized User	Travis Henderson
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		GP-5638-00-US-CON19_Application.pdf	198500	yes	29
			852ba77537895ff50fae836af96cb7aff5042ecb		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	23	
	Claims		24	28	
	Abstract		29	29	
Warnings:					
Information:					
2	Drawings-only black and white line drawings	GP-5638-00-US-CON19_Drawings.pdf	620905	no	7
			7c358ea8bf89760f3a2967081b2048b83764fe6		
Warnings:					
Information:					
3	Application Data Sheet	GP-5638-00-US-CON19_Application_Data_Sheet.pdf	1823549	no	9
			9a567de86fd71c371d4b23e1963f7de0d8091668		
Warnings:					
Information:					
4	Oath or Declaration filed	GP-5638-00-US-CON19_Declaration.pdf	127253	no	1
			421c8251904995cbd3a20795bf871b38e560281e		
Warnings:					
Information:					
5	Power of Attorney	GP-5638-00-US-CON19_POA.pdf	254952	no	2
			24cf260bb97758d4c08ce8b236987884c2265e92		

Warnings:					
Information:					
6	First Action Interview - Enrollment Request	GP-5638-00-US-CON19_First_Action_Interview_Request.pdf	621952	no	3
			ca35aa0526413822f74c9243109b8a346c59c228		
Warnings:					
Information:					
7	TrackOne Request	GP-5638-00-US-CON19_TrackOneRequest.pdf	140483	no	2
			2545bb13c300b206fbbd96f2f6d1367a28905346		
Warnings:					
Information:					
8	Transmittal Letter	GP-5638-00-US-CON19_IDS_Transmittal.pdf	102940	no	2
			36fe8cd2ea077d74bb3d2036155043f2aa63a9a0		
Warnings:					
Information:					
9	Information Disclosure Statement (IDS) Form (SB08)	GP-5638-00-US-CON19_IDS.pdf	686892	no	94
			adff4c76ee48791c0f24000235e2eb944cae8f		
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
10	Non Patent Literature	14536108NFOA022218.pdf	1585598	no	18
			512d309c0cdafa3d5f49e856922e33494259037b		
Warnings:					
Information:					
11	Fee Worksheet (SB06)	fee-info.pdf	40635	no	2
			6d8a16311166e399fffb12e60149ff8f6e6bc692		
Warnings:					
Information:					
Total Files Size (in bytes):			6203659		

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.

RELAYING COMMUNICATIONS IN A WIRELESS SENSOR SYSTEM

Inventor
Lawrence Kates

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] which is a continuation of U.S. Patent Application Ser. No. 15/601,705, filed May 22, 2017, and entitled, “RELAYING COMMUNICATIONS IN A WIRELESS SENSOR SYSTEM,” which is a continuation of U.S. Patent Application Ser. No. 15/090,973, now U.S. Patent No. 9,723,559, filed April 5, 2016, and entitled, “WIRELESS SENSOR UNIT COMMUNICATION TRIGGERING AND MANAGEMENT,” which is a continuation of U.S. Patent Application Ser. No. 14/548,137, now U.S. Patent No. 9,318,015, filed November 19, 2014, and entitled, “WIRELESS SENSOR UNIT COMMUNICATION TRIGGERING AND MANAGEMENT,” which is a continuation of U.S. Patent Application Ser. No. 14/168,876, now U.S. Patent No. 9,357,490, filed January 30, 2014, and entitled, “WIRELESS TRANSCEIVER,” which is a continuation of U.S. Patent Application Ser. No. 12/905,248, filed October 15, 2010, and entitled, “WIRELESS TRANSCEIVER,” which is a continuation of U.S. Patent Application Ser. No. 12/182,079, now U.S. Patent No. 7,817,031, filed July 29, 2008, and entitled “WIRELESS TRANSCEIVER,” which is a divisional of U.S. Patent Application Ser. No. 11/562,313, now U.S. Patent No. 7,411,494, filed November 21, 2006, and entitled “WIRELESS TRANSCEIVER,” which is a continuation of U.S. Patent Application Ser. No. 10/856,231, now U.S. Patent No. 7,142,107, filed May 27, 2004, and entitled “WIRELESS TRANSCEIVER,” the entirety of which are incorporated by reference herein for all purposes.

BACKGROUND

[0002] 1. Field of the Invention

[0003] The present invention relates to a wireless sensor unit system providing bi-directional communication between a sensor (e.g., smoke sensor, fire sensor, temperature sensor, water, etc.) and a repeater or base unit in a building protection system.

[0004] 2. Description of the Related Art

[0005] Maintaining and protecting a building or complex is difficult and costly. Some conditions, such as fires, gas leaks, etc. are a danger to the occupants and the structure. Other

malfunctions, such as water leaks in roofs, plumbing, etc. are not necessarily dangerous for the occupants, but can nevertheless cause considerable damage. In many cases, an adverse ambient condition such as water leakage, fire, etc. is not detected in the early stages when the damage and/or danger is relatively small. Sensors can be used to detect such adverse ambient conditions, but sensors present their own set of problems. For example, adding sensors, such as, for example, smoke detectors, water sensors, and the like in an existing structure can be prohibitively expensive due to the cost of installing wiring between the remote sensors and a centralized monitoring device used to monitor the sensors. Adding wiring to provide power to the sensors further increases the cost. Moreover, with regard to fire sensors, most fire departments will not allow automatic notification of the fire department based on the data from a smoke detector alone. Most fire departments require that a specific temperature rate-of-rise be detected before an automatic fire alarm system can notify the fire department. Unfortunately, detecting fire by temperature rate-of-rise generally means that the fire is not detected until it is too late to prevent major damage.

SUMMARY

[0006] The present invention solves these and other problems by providing a relatively low cost, robust, wireless sensor system that provides an extended period of operability without maintenance. The system includes one or more intelligent sensor units and a base unit that can communicate with the sensor units. When one or more of the sensor units detects an anomalous condition (e.g., smoke, fire, water, etc.) the sensor unit communicates with the base unit and provides data regarding the anomalous condition. The base unit can contact a supervisor or other responsible person by a plurality of techniques, such as, telephone, pager, cellular telephone, Internet (and/or local area network), etc. In one embodiment, one or more wireless repeaters are used between the sensor units and the base unit to extend the range of the system and to allow the base unit to communicate with a larger number of sensors.

[0007] In one embodiment, the sensor system includes a number of sensor units located throughout a building that sense conditions and report anomalous results back to a central reporting station. The sensor units measure conditions that might indicate a fire, water leak, etc. The sensor units report the measured data to the base unit whenever the sensor unit determines that the measured data is sufficiently anomalous to be reported. The base unit can notify a

responsible person such as, for example a building manager, building owner, private security service, etc. In one embodiment, the sensor units do not send an alarm signal to the central location. Rather, the sensors send quantitative measured data (e.g., smoke density, temperature rate of rise, etc.) to the central reporting station.

[0008] In one embodiment, the sensor system includes a battery-operated sensor unit that detects a condition, such as, for example, smoke, temperature, humidity, moisture, water, water temperature, carbon monoxide, natural gas, propane gas, other flammable gases, radon, poison gasses, etc. The sensor unit is placed in a building, apartment, office, residence, etc. In order to conserve battery power, the sensor is normally placed in a low-power mode. In one embodiment, while in the low power mode, the sensor unit takes regular sensor readings and evaluates the readings to determine if an anomalous condition exists (e.g., block 901 of method 900 of FIG. 9). If an anomalous condition is detected, then the sensor unit "wakes up" (block 902) and begins communicating with the base unit or with a repeater (block 903). At programmed intervals, the sensor also "wakes up" and sends status information to the base unit (or repeater) and then listens for commands for a period of time.

[0009] In one embodiment, the sensor unit is bi-directional and configured to receive instructions from the central reporting station (or repeater). Thus, for example, the central reporting station can instruct the sensor to: perform additional measurements; go to a standby mode; wake up; report battery status; change wake-up interval; run self-diagnostics and report results; etc. In one embodiment, the sensor unit also includes a tamper switch. When tampering with the sensor is detected, the sensor reports such tampering to the base unit. In one embodiment, the sensor reports its general health and status to the central reporting station on a regular basis (e.g., results of self-diagnostics, battery health, etc.).

[0010] In one embodiment, the sensor unit provides two wake-up modes, a first wake-up mode for taking measurements (and reporting such measurements if deemed necessary), and a second wake-up mode for listening for commands from the central reporting station. The two wake-up modes, or combinations thereof, can occur at different intervals.

[0011] In one embodiment, the sensor units use spread-spectrum techniques to communicate with the base unit and/or the repeater units. In one embodiment, the sensor units use frequency-hopping spread-spectrum. In one embodiment, each sensor unit has an Identification code (ID) and the sensor unit attaches its ID to outgoing communication packets. In one embodiment,

when receiving wireless data, each sensor unit ignores data that is addressed to other sensor units.

[0012] The repeater unit is configured to relay communications traffic between a number of sensor units and the base unit. The repeater units typically operate in an environment with several other repeater units and thus each repeater unit contains a database (e.g., a lookup table) of sensor IDs. During normal operation, the repeater only communicates with designated wireless sensor units whose IDs appears in the repeater's database. In one embodiment, the repeater is battery-operated and conserves power by maintaining an internal schedule of when its designated sensors are expected to transmit and going to a low-power mode when none of its designated sensor units is scheduled to transmit. In one embodiment, the repeater uses spread-spectrum to communicate with the base unit and the sensor units. In one embodiment, the repeater uses frequency-hopping spread-spectrum to communicate with the base unit and the sensor units. In one embodiment, each repeater unit has an ID and the repeater unit attaches its ID to outgoing communication packets that originate in the repeater unit. In one embodiment, each repeater unit ignores data that is addressed to other repeater units or to sensor units not serviced by the repeater.

[0013] In one embodiment, the repeater is configured to provide bi-directional communication between one or more sensors and a base unit. In one embodiment, the repeater is configured to receive instructions from the central reporting station (or repeater). Thus, for example, the central reporting station can instruct the repeater to: send commands to one or more sensors; go to standby mode; "wake up"; report battery status; change wake-up interval; run self-diagnostics and report results; etc.

[0014] The base unit is configured to receive measured sensor data from a number of sensor units. In one embodiment, the sensor information is relayed through the repeater units. The base unit also sends commands to the repeater units and/or sensor units. In one embodiment, the base unit includes a diskless PC that runs off of a CD-ROM, flash memory, DVD, or other read-only device, etc. When the base unit receives data from a wireless sensor indicating that there may be an emergency condition (e.g., a fire or excess smoke, temperature, water, flammable gas, etc.) the base unit will attempt to notify a responsible party (e.g., a building manager) by several communication channels (e.g., telephone, Internet, pager, cell phone, etc.). In one embodiment, the base unit sends instructions to place the wireless sensor in an alert mode (inhibiting the

wireless sensor's low-power mode). In one embodiment, the base unit sends instructions to activate one or more additional sensors near the first sensor.

[0015] In one embodiment, the base unit maintains a database of the health, battery status, signal strength, and current operating status of all of the sensor units and repeater units in the wireless sensor system. In one embodiment, the base unit automatically performs routine maintenance by sending commands to each sensor to run a self-diagnostic and report the results. The bases unit collects such diagnostic results. In one embodiment, the base unit sends instructions to each sensor telling the sensor how long to wait between "wakeup" intervals. In one embodiment, the base unit schedules different wakeup intervals to different sensors based on the sensor's health, battery health, location, etc. In one embodiment, the base unit sends instructions to repeaters to route sensor information around a failed repeater.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016] **FIG. 1** shows a sensor system that includes a plurality of sensor units that communicate with a base unit through a number of repeater units.

[0017] **FIG. 2** is a block diagram of a sensor unit.

[0018] **FIG. 3** is a block diagram of a repeater unit.

[0019] **FIG. 4** is a block diagram of the base unit.

[0020] **FIG. 5** shows one embodiment a network communication packet used by the sensor units, repeater units, and the base unit.

[0021] **FIG. 6** is a flowchart showing operation of a sensor unit that provides relatively continuous monitoring.

[0022] **FIG. 7** is a flowchart showing operation of a sensor unit that provides periodic monitoring.

[0023] **FIG. 8** shows how the sensor system can be used to detected water leaks.

[0024] **FIG. 9** illustrates a method for using a wireless ambient sensor unit.

DETAILED DESCRIPTION

[0025] **FIG. 1** shows an sensor system 100 that includes a plurality of sensor units 102-106 that communicate with a base unit 112 through a number of repeater units 110-111. The sensor units 102-106 are located throughout a building 101. Sensor units 102-104 communicate with the repeater 110. Sensor units 105-105 communicate with the repeater 111. The repeaters 110-111

communicate with the base unit 112. The base unit 112 communicates with a monitoring computer system 113 through a computer network connection such as, for example, Ethernet, wireless Ethernet, firewire port, Universal Serial Bus (USB) port, bluetooth, etc. The computer system 113 contacts a building manager, maintenance service, alarm service, or other responsible personnel 120 using one or more of several communication systems such as, for example, telephone 121, pager 122, cellular telephone 123 (e.g., direct contact, voicemail, text, etc.), and/or through the Internet and/or local area network 124 (e.g., through email, instant messaging, network communications, etc.). In one embodiment, multiple base units 112 are provided to the monitoring computer 113. In one embodiment, the monitoring computer 113 is provided to more than one compute monitor, thus allowing more data to be displayed than can conveniently be displayed on a single monitor. In one embodiment, the monitoring computer 113 is provided to multiple monitors located in different locations, thus allowing the data from the monitoring computer 113 to be displayed in multiple locations.

[0026] The sensor units 102-106 include sensors to measure conditions, such as, for example, smoke, temperature, moisture, water, water temperature, humidity, carbon monoxide, natural gas, propane gas, security alarms, intrusion alarms (e.g., open doors, broken windows, open windows, and the like), other flammable gases, radon, poison gasses, etc. Different sensor units can be configured with different sensors or with combinations of sensors. Thus, for example, in one installation the sensor units 102 and 104 could be configured with smoke and/or temperature sensors while the sensor unit 103 could be configured with a humidity sensor.

[0027] The discussion that follows generally refers to the sensor unit 102 as an example of a sensor unit, with the understanding that the description of the sensor unit 102 can be applied to many sensor units. Similarly, the discussion generally refers to the repeater 110 by way of example, and not limitation. It will also be understood by one of ordinary skill in the art that repeaters are useful for extending the range of the sensor units 102-106 but are not required in all embodiments. Thus, for example in one embodiment, one or more of the sensor units 102-106 can communicate directly with the base unit 112 without going through a repeater. It will also be understood by one of ordinary skill in the art that FIG. 1 shows only five sensor units (102-106) and two repeater units (110-111) for purposes of illustration and not by way of limitation. An installation in a large apartment building or complex would typically involve many sensor units and repeater units. Moreover, one of ordinary skill in the art will recognize that one repeater unit

can service relatively many sensor units. In one embodiment, the sensor units 102 can communicate directly with the base unit 112 without going through a repeater 111.

[0028] When the sensor unit 102 detects an anomalous condition (e.g., smoke, fire, water, etc.) the sensor unit communicates with the appropriate repeater unit 110 and provides data regarding the anomalous condition. The repeater unit 110 forwards the data to the base unit 112, and the base unit 112 forwards the information to the computer 113. The computer 113 evaluates the data and takes appropriate action. If the computer 113 determines that the condition is an emergency (e.g., fire, smoke, large quantities of water), then the computer 113 contacts the appropriate personnel 120. If the computer 113 determines that the situation warrants reporting, but is not an emergency, then the computer 113 logs the data for later reporting. In this way, the sensor system 100 can monitor the conditions in and around the building 101.

[0029] In one embodiment, the sensor unit 102 has an internal power source (e.g., battery, solar cell, fuel cell, etc.). In order to conserve power, the sensor unit 102 is normally placed in a low-power mode. In one embodiment, using sensors that require relatively little power, while in the low power mode the sensor unit 102 takes regular sensor readings and evaluates the readings to determine if an anomalous condition exists. In one embodiment, using sensors that require relatively more power, while in the low power mode the sensor unit 102 takes and evaluates sensor readings at periodic intervals. If an anomalous condition is detected, then the sensor unit 102 "wakes up" and begins communicating with the base unit 112 through the repeater 110. At programmed intervals, the sensor unit 102 also "wakes up" and sends status information (e.g., power levels, self-diagnostic information, etc.) to the base unit (or repeater) and then listens for commands for a period of time. In one embodiment, the sensor unit 102 also includes a tamper detector. When tampering with the sensor unit 102 is detected, the sensor unit 102 reports such tampering to the base unit 112.

[0030] In one embodiment, the sensor unit 102 provides bi-directional communication and is configured to receive data and/or instructions from the base unit 112. Thus, for example, the base unit 112 can instruct the sensor unit 102 to perform additional measurements, to go to a standby mode, to wake up, to report battery status, to change wake-up interval, to run self-diagnostics and report results, etc. In one embodiment, the sensor unit 102 reports its general health and status on a regular basis (e.g., results of self-diagnostics, battery health, etc.).

[0031] In one embodiment, the sensor unit 102 provides two wake-up modes, a first wake-up mode for taking measurements (and reporting such measurements if deemed necessary), and a second wake-up mode for listening for commands from the central reporting station. The two wake-up modes, or combinations thereof, can occur at different intervals.

[0032] In one embodiment, the sensor unit 102 use spread-spectrum techniques to communicate with the repeater unit 110. In one embodiment, the sensor unit 102 uses frequency-hopping spread-spectrum. In one embodiment, the sensor unit 102 has an address or identification (ID) code that distinguishes the sensor unit 102 from the other sensor units. The sensor unit 102 attaches its ID to outgoing communication packets so that transmissions from the sensor unit 102 can be identified by the repeater 110. The repeater 110 attaches the ID of the sensor unit 102 to data and/or instructions that are transmitted to the sensor unit 102. In one embodiment, the sensor unit 102 ignores data and/or instructions that are addressed to other sensor units.

[0033] In one embodiment, the sensor unit 102 includes a reset function. In one embodiment, the reset function is activated by the reset switch 208. In one embodiment, the reset function is active for a prescribed interval of time. During the reset interval, the transceiver 203 is in a receiving mode and can receive the identification code from an external programmer. In one embodiment, the external programmer wirelessly transmits a desired identification code. In one embodiment, the identification code is programmed by an external programmer that is connected to the sensor unit 102 through an electrical connector. In one embodiment, the electrical connection to the sensor unit 102 is provided by sending modulated control signals (power line carrier signals) through a connector used to connect the power source 206. In one embodiment, the external programmer provides power and control signals. In one embodiment, the external programmer also programs the type of sensor(s) installed in the sensor unit. In one embodiment, the identification code includes an area code (e.g., apartment number, zone number, floor number, etc.) and a unit number (e.g., unit 1, 2, 3, etc.).

[0034] In one embodiment, the sensor communicates with the repeater on the 900 MHz band. This band provides good transmission through walls and other obstacles normally found in and around a building structure. In one embodiment, the sensor communicates with the repeater on bands above and/or below the 900 MHz band. In one embodiment, the sensor, repeater, and/or base unit listen to a radio frequency channel before transmitting on that channel or before beginning transmission. If the channel is in use, (e.g., by another device such as another

repeater, a cordless telephone, etc.) then the sensor, repeater, and/or base unit changes to a different channel. In one embodiment, the sensor, repeater, and/or base unit coordinate frequency hopping by listening to radio frequency channels for interference and using an algorithm to select a next channel for transmission that avoids the interference. Thus, for example, in one embodiment, if a sensor senses a dangerous condition and goes into a continuous transmission mode, the sensor will test (e.g., listen to) the channel before transmission to avoid channels that are blocked, in use, or jammed. In one embodiment, the sensor continues to transmit data until it receives an acknowledgement from the base unit that the message has been received. In one embodiment, the sensor transmits data having a normal priority (e.g., status information) and does not look for an acknowledgement, and the sensor transmits data having elevated priority (e.g., excess smoke, temperature, etc.) until an acknowledgement is received.

[0035] The repeater unit 110 is configured to relay communications traffic between the sensor 102 (and, similarly, the sensor units 103-104) and the base unit 112. The repeater unit 110 typically operates in an environment with several other repeater units (such as the repeater unit 111 in FIG. 1) and thus the repeater unit 110 contains a database (e.g., a lookup table) of sensor unit IDs. In FIG. 1, the repeater 110 has database entries for the IDs of the sensors 102-104, and thus the sensor 110 will only communicate with sensor units 102-104. In one embodiment, the repeater 110 has an internal power source (e.g., battery, solar cell, fuel cell, etc.) and conserves power by maintaining an internal schedule of when the sensor units 102-104 are expected to transmit. In one embodiment, the repeater unit 110 goes to a low-power mode when none of its designated sensor units is scheduled to transmit. In one embodiment, the repeater 110 uses spread-spectrum techniques to communicate with the base unit 112 and with the sensor units 102-104. In one embodiment, the repeater 110 uses frequency-hopping spread-spectrum to communicate with the base unit 112 and the sensor units 102-104. In one embodiment, the repeater unit 110 has an address or identification (ID) code and the repeater unit 110 attaches its address to outgoing communication packets that originate in the repeater (that is, packets that are not being forwarded). In one embodiment, the repeater unit 110 ignores data and/or instructions that are addressed to other repeater units or to sensor units not serviced by the repeater 110.

[0036] In one embodiment, the base unit 112 communicates with the sensor unit 102 by transmitting a communication packet addressed to the sensor unit 102. The repeaters 110 and

111 both receive the communication packet addressed to the sensor unit 102. The repeater unit 111 ignores the communication packet addressed to the sensor unit 102. The repeater unit 110 transmits the communication packet addressed to the sensor unit 102 to the sensor unit 102. In one embodiment, the sensor unit 102, the repeater unit 110, and the base unit 112 communicate using Frequency-Hopping Spread Spectrum (FHSS), also known as channel-hopping.

[0037] Frequency-hopping wireless systems offer the advantage of avoiding other interfering signals and avoiding collisions. Moreover, there are regulatory advantages given to systems that do not transmit continuously at one frequency. Channel-hopping transmitters change frequencies after a period of continuous transmission, or when interference is encountered. These systems may have higher transmit power and relaxed limitations on in-band spurs. FCC regulations limit transmission time on one channel to 400 milliseconds (averaged over 10-20 seconds depending on channel bandwidth) before the transmitter must change frequency. There is a minimum frequency step when changing channels to resume transmission. If there are 25 to 49 frequency channels, regulations allow effective radiated power of 24 dBm, spurs must be -20 dBc, and harmonics must be -41.2 dBc. With 50 or more channels, regulations allow effective radiated power to be up to 30 dBm.

[0038] In one embodiment, the sensor unit 102, the repeater unit 110, and the base unit 112 communicate using FHSS wherein the frequency hopping of the sensor unit 102, the repeater unit 110, and the base unit 112 are not synchronized such that at any given moment, the sensor unit 102 and the repeater unit 110 are on different channels. In such a system, the base unit 112 communicates with the sensor unit 102 using the hop frequencies synchronized to the repeater unit 110 rather than the sensor unit 102. The repeater unit 110 then forwards the data to the sensor unit using hop frequencies synchronized to the sensor unit 102. Such a system largely avoids collisions between the transmissions by the base unit 112 and the repeater unit 110.

[0039] In one embodiment, the sensor units 102-106 all use FHSS and the sensor units 102-106 are not synchronized. Thus, at any given moment, it is unlikely that any two or more of the sensor units 102-106 will transmit on the same frequency. In this manner, collisions are largely avoided. In one embodiment, collisions are not detected but are tolerated by the system 100. If a collision does occur, data lost due to the collision is effectively re-transmitted the next time the sensor units transmit sensor data. When the sensor units 102-106 and repeater units 110-111 operate in asynchronous mode, then a second collision is highly unlikely because the units

causing the collisions have hopped to different channels. In one embodiment, the sensor units 102-106, repeater units 110-110, and the base unit 112 use the same hop rate. In one embodiment, the sensor units 102-106, repeater units 110-110, and the base unit 112 use the same pseudo-random algorithm to control channel hopping, but with different starting seeds. In one embodiment, the starting seed for the hop algorithm is calculated from the ID of the sensor units 102-106, repeater units 110-110, or the base unit 112.

[0040] In an alternative embodiment, the base unit communicates with the sensor unit 102 by sending a communication packet addressed to the repeater unit 110, where the packet sent to the repeater unit 110 includes the address of the sensor unit 102. The repeater unit 102 extracts the address of the sensor unit 102 from the packet and creates and transmits a packet addressed to the sensor unit 102.

[0041] In one embodiment, the repeater unit 110 is configured to provide bi-directional communication between its sensors and the base unit 112. In one embodiment, the repeater 110 is configured to receive instructions from the base unit 110. Thus, for example, the base unit 112 can instruct the repeater to: send commands to one or more sensors; go to standby mode; "wake up"; report battery status; change wake-up interval; run self-diagnostics and report results; etc.

[0042] The base unit 112 is configured to receive measured sensor data from a number of sensor units either directly, or through the repeaters 110-111. The base unit 112 also sends commands to the repeater units 110-111 and/or to the sensor units 110-111. In one embodiment, the base unit 112 communicates with a diskless computer 113 that runs off of a CD-ROM. When the base unit 112 receives data from a sensor unit 102-111 indicating that there may be an emergency condition (e.g., a fire or excess smoke, temperature, water, etc.) the computer 113 will attempt to notify the responsible party 120.

[0043] In one embodiment, the computer 112 maintains a database of the health, power status (e.g., battery charge), and current operating status of all of the sensor units 102-106 and the repeater units 110-111. In one embodiment, the computer 113 automatically performs routine maintenance by sending commands to each sensor unit 102-106 to run a self-diagnostic and report the results. The computer 113 collects and logs such diagnostic results. In one embodiment, the computer 113 sends instructions to each sensor unit 102-106 telling the sensor how long to wait between "wakeup" intervals. In one embodiment, the computer 113 schedules different wakeup intervals to different sensor unit 102-106 based on the sensor unit's health,

power status, location, etc. In one embodiment, the computer 113 schedules different wakeup intervals to different sensor unit 102-106 based on the type of data and urgency of the data collected by the sensor unit (e.g., sensor units that have smoke and/or temperature sensors produce data that should be checked relatively more often than sensor units that have humidity or moisture sensors). In one embodiment, the base unit sends instructions to repeaters to route sensor information around a failed repeater.

[0044] In one embodiment, the computer 113 produces a display that tells maintenance personnel which sensor units 102-106 need repair or maintenance. In one embodiment, the computer 113 maintains a list showing the status and/or location of each sensor according to the ID of each sensor.

[0045] In one embodiment, the sensor units 102-106 and/or the repeater units 110-111 measure the signal strength of the wireless signals received (e.g., the sensor unit 102 measures the signal strength of the signals received from the repeater unit 110, the repeater unit 110 measures the signal strength received from the sensor unit 102 and/or the base unit 112). The sensor units 102-106 and/or the repeater units 110-111 report such signal strength measurement back to the computer 113. The computer 113 evaluates the signal strength measurements to ascertain the health and robustness of the sensor system 100. In one embodiment, the computer 113 uses the signal strength information to re-route wireless communications traffic in the sensor system 100. Thus, for example, if the repeater unit 110 goes offline or is having difficulty communicating with the sensor unit 102, the computer 113 can send instructions to the repeater unit 111 to add the ID of the sensor unit 102 to the database of the repeater unit 111 (and similarly, send instructions to the repeater unit 110 to remove the ID of the sensor unit 102), thereby routing the traffic for the sensor unit 102 through the router unit 111 instead of the router unit 110.

[0046] FIG. 2 is a block diagram of the sensor unit 102. In the sensor unit 102, one or more sensors 201 and a transceiver 203 are provided to a controller 202. The controller 202 typically provides power, data, and control information to the sensor(s) 201 and the transceiver 202. A power source 206 is provided to the controller 202. An optional tamper sensor 205 is also provided to the controller 202. A reset device (e.g., a switch) 208 is provided to the controller 202. In one embodiment, an optional audio output device 209 is provided. In one embodiment, the sensor 201 is configured as a plug-in module that can be replaced relatively easily.

[0047] In one embodiment, the transceiver 203 is based on a TRF 6901 transceiver chip from

Texas Instruments, Inc. In one embodiment, the controller 202 is a conventional programmable microcontroller. In one embodiment, the controller 202 is based on a Field Programmable Gate Array (FPGA), such as, for example, provided by Xilinx Corp. In one embodiment, the sensor 201 includes an optoelectric smoke sensor with a smoke chamber. In one embodiment, the sensor 201 includes a thermistor. In one embodiment, the sensor 201 includes a humidity sensor. In one embodiment, the sensor 201 includes an sensor, such as, for example, a water level sensor, a water temperature sensor, a carbon monoxide sensor, a moisture sensor, a water flow sensor, natural gas sensor, propane sensor, etc.

[0048] The controller 202 receives sensor data from the sensor(s) 201. Some sensors 201 produce digital data. However, for many types of sensors 201, the sensor data is analog data. Analog sensor data is converted to digital format by the controller 202. In one embodiment, the controller evaluates the data received from the sensor(s) 201 and determines whether the data is to be transmitted to the base unit 112. The sensor unit 102 generally conserves power by not transmitting data that falls within a normal range. In one embodiment, the controller 202 evaluates the sensor data by comparing the data value to a threshold value (e.g., a high threshold, a low threshold, or a high-low threshold). If the data is outside the threshold (e.g., above a high threshold, below a low threshold, outside an inner range threshold, or inside an outer range threshold), then the data is deemed to be anomalous and is transmitted to the base unit 112. In one embodiment, the data threshold is programmed into the controller 202. In one embodiment, the data threshold is programmed by the base unit 112 by sending instructions to the controller 202. In one embodiment, the controller 202 obtains sensor data and transmits the data when commanded by the computer 113.

[0049] In one embodiment, the tamper sensor 205 is configured as a switch that detects removal of or tampering with the sensor unit 102.

[0050] FIG. 3 is a block diagram of the repeater unit 110. In the repeater unit 110, a first transceiver 302 and a second transceiver 305 are provided to a controller 303. The controller 303 typically provides power, data, and control information to the transceivers 302, 304. A power source 306 is provided to the controller 303. An optional tamper sensor (not shown) is also provided to the controller 303.

[0051] When relaying sensor data to the base unit 112, the controller 303 receives data from the first transceiver 303 and provides the data to the second transceiver 304. When relaying

instructions from the base unit 112 to a sensor unit, the controller 303 receives data from the second transceiver 304 and provides the data to the first transceiver 302. In one embodiment, the controller 303 conserves power by powering-down the transceivers 302, 304 during periods when the controller 303 is not expecting data. The controller 303 also monitors the power source 306 and provides status information, such as, for example, self-diagnostic information and/or information about the health of the power source 306, to the base unit 112. In one embodiment, the controller 303 sends status information to the base unit 112 at regular intervals. In one embodiment, the controller 303 sends status information to the base unit 112 when requested by the base unit 112. In one embodiment, the controller 303 sends status information to the base unit 112 when a fault condition (e.g., battery low) is detected.

[0052] In one embodiment, the controller 303 includes a table or list of identification codes for wireless sensor units 102. The repeater 303 forwards packets received from, or sent to, sensor units 102 in the list. In one embodiment, the repeater 110 receives entries for the list of sensor units from the computer 113. In one embodiment, the controller 303 determines when a transmission is expected from the sensor units 102 in the table of sensor units and places the repeater 110 (e.g., the transceivers 302, 304) in a low-power mode when no transmissions are expected from the transceivers on the list. In one embodiment, the controller 303 recalculates the times for low-power operation when a command to change reporting interval is forwarded to one of the sensor units 102 in the list (table) of sensor units or when a new sensor unit is added to the list (table) of sensor units.

[0053] FIG. 4 is a block diagram of the base unit 112. In the base unit 112, a transceiver 402 and a computer interface 404 are provided to a controller 403. The controller 303 typically provides data and control information to the transceivers 402 and to the interface. The interface 402 is provided to a port on the monitoring computer 113. The interface 402 can be a standard computer data interface, such as, for example, Ethernet, wireless Ethernet, firewire port, Universal Serial Bus (USB) port, bluetooth, etc.

[0054] FIG. 5 shows one embodiment a communication packet 500 used by the sensor units, repeater units, and the base unit. The packet 500 includes a preamble portion 501, an address (or ID) portion 502, a data payload portion 503, and an integrity portion 504. In one embodiment, the integrity portion 504 includes a checksum. In one embodiment, the sensor units 102-106, the repeater units 110-111, and the base unit 112 communicate using packets such as the packet 500.

In one embodiment, the packets 500 are transmitted using FHSS.

[0055] In one embodiment, the data packets that travel between the sensor unit 102, the repeater unit 111, and the base unit 112 are encrypted. In one embodiment, the data packets that travel between the sensor unit 102, the repeater unit 111, and the base unit 112 are encrypted and an authentication code is provided in the data packet so that the sensor unit 102, the repeater unit, and/or the base unit 112 can verify the authenticity of the packet.

[0056] In one embodiment the address portion 502 includes a first code and a second code. In one embodiment, the repeater 111 only examines the first code to determine if the packet should be forwarded. Thus, for example, the first code can be interpreted as a building (or building complex) code and the second code interpreted as a subcode (e.g., an apartment code, area code, etc.). A repeater that uses the first code for forwarding thus forwards packets having a specified first code (e.g., corresponding to the repeater's building or building complex). Thus alleviates the need to program a list of sensor units 102 into a repeater, since a group of sensors in a building will typically all have the same first code but different second codes. A repeater so configured, only needs to know the first code to forward packets for any repeater in the building or building complex. This does, however, raise the possibility that two repeaters in the same building could try to forward packets for the same sensor unit 102. In one embodiment, each repeater waits for a programmed delay period before forwarding a packet. Thus reducing the chance of packet collisions at the base unit (in the case of sensor unit to base unit packets) and reducing the chance of packet collisions at the sensor unit (in the case of base unit to sensor unit packets). In one embodiment, a delay period is programmed into each repeater. In one embodiment, delay periods are pre-programmed onto the repeater units at the factory or during installation. In one embodiment, a delay period is programmed into each repeater by the base unit 112. In one embodiment, a repeater randomly chooses a delay period. In one embodiment, a repeater randomly chooses a delay period for each forwarded packet. In one embodiment, the first code is at least 6 digits. In one embodiment, the second code is at least 5 digits.

[0057] In one embodiment, the first code and the second code are programmed into each sensor unit at the factory. In one embodiment, the first code and the second code are programmed when the sensor unit is installed. In one embodiment, the base unit 112 can re-program the first code and/or the second code in a sensor unit.

[0058] In one embodiment, collisions are further avoided by configuring each repeater unit 111

to begin transmission on a different frequency channel. Thus, if two repeaters attempt to begin transmission at the same time, the repeaters will not interfere with each other because the transmissions will begin on different channels (frequencies).

[0059] FIG. 6 is a flowchart showing one embodiment of the operation of the sensor unit 102 wherein relatively continuous monitoring is provided. In FIG. 6, a power up block 601 is followed by an initialization block 602. After initialization, the sensor unit 102 checks for a fault condition (e.g., activation of the tamper sensor, low battery, internal fault, etc.) in a block 603. A decision block 604 checks the fault status. If a fault has occurred, then the process advances to a block 605 where the fault information is transmitted to the repeater 110 (after which, the process advances to a block 612); otherwise, the process advances to a block 606. In the block 606, the sensor unit 102 takes a sensor reading from the sensor(s) 201. The sensor data is subsequently evaluated in a block 607. If the sensor data is abnormal, then the process advances to a transmit block 609 where the sensor data is transmitted to the repeater 110 (after which, the process advances to a block 612); otherwise, the process advances to a timeout decision block 610. If the timeout period has not elapsed, then the process returns to the fault-check block 603; otherwise, the process advances to a transmit status block 611 where normal status information is transmitted to the repeater 110. In one embodiment, the normal status information transmitted is analogous to a simple "ping" which indicates that the sensor unit 102 is functioning normally. After the block 611, the process proceeds to a block 612 where the sensor unit 102 momentarily listens for instructions from the monitor computer 113. If an instruction is received, then the sensor unit 102 performs the instructions, otherwise, the process returns to the status check block 603. In one embodiment, transceiver 203 is normally powered down. The controller 202 powers up the transceiver 203 during execution of the blocks 605, 609, 611, and 612. The monitoring computer 113 can send instructions to the sensor unit 102 to change the parameters used to evaluate data used in block 607, the listen period used in block 612, etc.

[0060] Relatively continuous monitoring, such as shown in FIG. 6, is appropriate for sensor units that sense relatively high-priority data (e.g., smoke, fire, carbon monoxide, flammable gas, etc.). By contrast, periodic monitoring can be used for sensors that sense relatively lower priority data (e.g., humidity, moisture, water usage, etc.). FIG. 7 is a flowchart showing one embodiment of operation of the sensor unit 102 wherein periodic monitoring is provided. In FIG. 7, a power up block 701 is followed by an initialization block 702. After initialization, the sensor unit 102

enters a low-power sleep mode. If a fault occurs during the sleep mode (e.g., the tamper sensor is activated), then the process enters a wake-up block 704 followed by a transmit fault block 705. If no fault occurs during the sleep period, then when the specified sleep period has expired, the process enters a block 706 where the sensor unit 102 takes a sensor reading from the sensor(s) 201. The sensor data is subsequently sent to the monitoring computer 113 in a report block 707. After reporting, the sensor unit 102 enters a listen block 708 where the sensor unit 102 listens for a relatively short period of time for instructions from monitoring computer 708. If an instruction is received, then the sensor unit 102 performs the instructions, otherwise, the process returns to the sleep block 703. In one embodiment, the sensor 201 and transceiver 203 are normally powered down. The controller 202 powers up the sensor 201 during execution of the block 706. The controller 202 powers up the transceiver during execution of the blocks 705, 707, and 708. The monitoring computer 113 can send instructions to the sensor unit 102 to change the sleep period used in block 703, the listen period used in block 708, etc.

[0061] In one embodiment, the sensor unit transmits sensor data until a handshaking-type acknowledgement is received. Thus, rather than sleep of no instructions or acknowledgements are received after transmission (e.g., after the decision block 613 or 709) the sensor unit 102 retransmits its data and waits for an acknowledgement. The sensor unit 102 continues to transmit data and wait for an acknowledgement until an acknowledgement is received. In one embodiment, the sensor unit accepts an acknowledgement from a repeater unit 111 and it then becomes the responsibility of the repeater unit 111 to make sure that the data is forwarded to the base unit 112. In one embodiment, the repeater unit 111 does not generate the acknowledgement, but rather forwards an acknowledgement from the base unit 112 to the sensor unit 102. The two-way communication ability of the sensor unit 102 provides the capability for the base unit 112 to control the operation of the sensor unit 102 and also provides the capability for robust handshaking-type communication between the sensor unit 102 and the base unit 112.

[0062] Regardless of the normal operating mode of the sensor unit 102 (e.g., using the Flowcharts of FIGS. 6, 7, or other modes) in one embodiment, the monitoring computer 113 can instruct the sensor unit 102 to operate in a relatively continuous mode where the sensor repeatedly takes sensor readings and transmits the readings to the monitoring computer 113. Such a mode can be used, for example, when the sensor unit 102 (or a nearby sensor unit) has detected a potentially dangerous condition (e.g., smoke, rapid temperature rise, etc.).

[0063] FIG. 8 shows the sensor system used to detect water leaks. In one embodiment, the sensor unit 102 includes a water level sensor and 803 and/or a water temperature sensor 804. The water level sensor 803 and/or water temperature sensor 804 are placed, for example, in a tray underneath a water heater 801 in order to detect leaks from the water heater 801 and thereby prevent water damage from a leaking water heater. In one embodiment, a temperature sensor is also provided to measure temperature near the water heater. The water level sensor can also be placed under a sink, in a floor sump, etc. In one embodiment, the severity of a leak is ascertained by the sensor unit 102 (or the monitoring computer 113) by measuring the rate of rise in the water level. When placed near the hot water tank 801, the severity of a leak can also be ascertained at least in part by measuring the temperature of the water. In one embodiment, a first water flow sensor is placed in an input water line for the hot water tank 801 and a second water flow sensor is placed in an output water line for the hot water tank. Leaks in the tank can be detected by observing a difference between the water flowing through the two sensors.

[0064] In one embodiment, a remote shutoff valve 810 is provided, so that the monitoring system 100 can shutoff the water supply to the water heater when a leak is detected. In one embodiment, the shutoff valve is controlled by the sensor unit 102. In one embodiment, the sensor unit 102 receives instructions from the base unit 112 to shut off the water supply to the heater 801. In one embodiment, the responsible party 120 sends instructions to the monitoring computer 113 instructing the monitoring computer 113 to send water shut off instructions to the sensor unit 102. Similarly, in one embodiment, the sensor unit 102 controls a gas shutoff valve 811 to shut off the gas supply to the water heater 801 and/or to a furnace (not shown) when dangerous conditions (such as, for example, gas leaks, carbon monoxide, etc.) are detected. In one embodiment, a gas detector 812 is provided to the sensor unit 102. In one embodiment, the gas detector 812 measures carbon monoxide. In one embodiment, the gas detector 812 measures flammable gas, such as, for example, natural gas or propane.

[0065] In one embodiment, an optional temperature sensor 818 is provided to measure stack temperature. Using data from the temperature sensor 818, the sensor unit 102 reports conditions, such as, for example, excess stack temperature. Excess stack temperature is often indicative of poor heat transfer (and thus poor efficiency) in the water heater 818.

[0066] In one embodiment, an optional temperature sensor 819 is provided to measure temperature of water in the water heater 810. Using data from the temperature sensor 819, the

sensor unit 102 reports conditions, such as, for example, over-temperature or under-temperature of the water in the water heater.

[0067] In one embodiment, an optional current probe 821 is provided to measure electric current provided to a heating element 820 in an electric water heater. Using data from the current probe 821, the sensor unit 102 reports conditions, such as, for example, no current (indicating a burned-out heating element 820). An over-current condition often indicates that the heating element 820 is encrusted with mineral deposits and needs to be replaced or cleaned. By measuring the current provided to the water heater, the monitoring system can measure the amount of energy provided to the water heater and thus the cost of hot water, and the efficiency of the water heater.

[0068] In one embodiment, the sensor 803 includes a moisture sensor. Using data from the moisture sensor, the sensor unit 102 reports moisture conditions, such as, for example, excess moisture that would indicate a water leak, excess condensation, etc.

[0069] In one embodiment, the sensor unit 102 is provided to a moisture sensor (such as the sensor 803) located near an air conditioning unit. Using data from the moisture sensor, the sensor unit 102 reports moisture conditions, such as, for example, excess moisture that would indicate a water leak, excess condensation, etc.

[0070] In one embodiment, the sensor 201 includes a moisture sensor. The moisture sensor can be place under a sink or a toilet (to detect plumbing leaks) or in an attic space (to detect roof leaks).

[0071] Excess humidity in a structure can cause severe problems such as rotting, growth of molds, mildew, and fungus, etc. (hereinafter referred to generically as fungus). In one embodiment, the sensor 201 includes a humidity sensor. The humidity sensor can be place under a sink, in an attic space, etc. to detect excess humidity (due to leaks, condensation, etc.). In one embodiment, the monitoring computer 113 compares humidity measurements taken from different sensor units in order to detect areas that have excess humidity. Thus for example, the monitoring computer 113 can compare the humidity readings from a first sensor unit 102 in a first attic area, to a humidity reading from a second sensor unit 102 in a second area. For example, the monitoring computer can take humidity readings from a number of attic areas to establish a baseline humidity reading and then compare the specific humidity readings from various sensor units to determine if one or more of the units are measuring excess humidity. The monitoring computer 113 would flag areas of excess humidity for further investigation by

maintenance personnel. In one embodiment, the monitoring computer 113 maintains a history of humidity readings for various sensor units and flags areas that show an unexpected increase in humidity for investigation by maintenance personnel.

[0072] In one embodiment, the monitoring system 100 detects conditions favorable for fungus (e.g., mold, mildew, fungus, etc.) growth by using a first humidity sensor located in a first building area to produce first humidity data and a second humidity sensor located in a second building area to produce second humidity data. The building areas can be, for example, areas near a sink drain, plumbing fixture, plumbing, attic areas, outer walls, a bilge area in a boat, etc.

[0073] The monitoring station 113 collects humidity readings from the first humidity sensor and the second humidity sensor and indicates conditions favorable for fungus growth by comparing the first humidity data and the second humidity data. In one embodiment, the monitoring station 113 establishes a baseline humidity by comparing humidity readings from a plurality of humidity sensors and indicates possible fungus growth conditions in the first building area when at least a portion of the first humidity data exceeds the baseline humidity by a specified amount. In one embodiment, the monitoring station 113 establishes a baseline humidity by comparing humidity readings from a plurality of humidity sensors and indicates possible fungus growth conditions in the first building area when at least a portion of the first humidity data exceeds the baseline humidity by a specified percentage.

[0074] In one embodiment, the monitoring station 113 establishes a baseline humidity history by comparing humidity readings from a plurality of humidity sensors and indicates possible fungus growth conditions in the first building area when at least a portion of the first humidity data exceeds the baseline humidity history by a specified amount over a specified period of time. In one embodiment, the monitoring station 113 establishes a baseline humidity history by comparing humidity readings from a plurality of humidity sensors over a period of time and indicates possible fungus growth conditions in the first building area when at least a portion of the first humidity data exceeds the baseline humidity by a specified percentage of a specified period of time.

[0075] In one embodiment, the sensor unit 102 transmits humidity data when it determines that the humidity data fails a threshold test. In one embodiment, the humidity threshold for the threshold test is provided to the sensor unit 102 by the monitoring station 113. In one embodiment, the humidity threshold for the threshold test is computed by the monitoring station

from a baseline humidity established in the monitoring station. In one embodiment, the baseline humidity is computed at least in part as an average of humidity readings from a number of humidity sensors. In one embodiment, the baseline humidity is computed at least in part as a time average of humidity readings from a number of humidity sensors. In one embodiment, the baseline humidity is computed at least in part as a time average of humidity readings from a humidity sensor. In one embodiment, the baseline humidity is computed at least in part as the lesser of a maximum humidity reading and an average of a number of humidity readings.

[0076] In one embodiment, the sensor unit 102 reports humidity readings in response to a query by the monitoring station 113. In one embodiment, the sensor unit 102 reports humidity readings at regular intervals. In one embodiment, a humidity interval is provided to the sensor unit 102 by the monitoring station 113.

[0077] In one embodiment, the calculation of conditions for fungus growth is comparing humidity readings from one or more humidity sensors to the baseline (or reference) humidity. In one embodiment, the comparison is based on comparing the humidity readings to a percentage (e.g., typically a percentage greater than 100%) of the baseline value. In one embodiment, the comparison is based on comparing the humidity readings to a specified delta value above the reference humidity. In one embodiment, the calculation of likelihood of conditions for fungus growth is based on a time history of humidity readings, such that the longer the favorable conditions exist, the greater the likelihood of fungus growth. In one embodiment, relatively high humidity readings over a period of time indicate a higher likelihood of fungus growth than relatively high humidity readings for short periods of time. In one embodiment, a relatively sudden increase in humidity as compared to a baseline or reference humidity is reported by the monitoring station 113 as a possibility of a water leak. If the relatively high humidity reading continues over time then the relatively high humidity is reported by the monitoring station 113 as possibly being a water leak and/or an area likely to have fungus growth or water damage.

[0078] Temperatures relatively more favorable to fungus growth increase the likelihood of fungus growth. In one embodiment, temperature measurements from the building areas are also used in the fungus growth-likelihood calculations. In one embodiment, a threshold value for likelihood of fungus growth is computed at least in part as a function of temperature, such that temperatures relatively more favorable to fungus growth result in a relatively lower threshold than temperatures relatively less favorable for fungus growth. In one embodiment, the

calculation of a likelihood of fungus growth depends at least in part on temperature such that temperatures relatively more favorable to fungus growth indicate a relatively higher likelihood of fungus growth than temperatures relatively less favorable for fungus growth. Thus, in one embodiment, a maximum humidity and/or minimum threshold above a reference humidity is relatively lower for temperature more favorable to fungus growth than the maximum humidity and/or minimum threshold above a reference humidity for temperatures relatively less favorable to fungus growth.

[0079] In one embodiment, a water flow sensor is provided to the sensor unit 102. The sensor unit 102 obtains water flow data from the water flow sensor and provides the water flow data to the monitoring computer 113. The monitoring computer 113 can then calculate water usage. Additionally, the monitoring computer can watch for water leaks, by, for example, looking for water flow when there should be little or no flow. Thus, for example, if the monitoring computer detects water usage throughout the night, the monitoring computer can raise an alert indicating that a possible water leak has occurred.

[0080] In one embodiment, the sensor 201 includes a water flow sensor is provided to the sensor unit 102. The sensor unit 102 obtains water flow data from the water flow sensor and provides the water flow data to the monitoring computer 113. The monitoring computer 113 can then calculate water usage. Additionally, the monitoring computer can watch for water leaks, by, for example, looking for water flow when there should be little or no flow. Thus, for example, if the monitoring computer detects water usage throughout the night, the monitoring computer can raise an alert indicating that a possible water leak has occurred.

[0081] In one embodiment, the sensor 201 includes a fire-extinguisher tamper sensor is provided to the sensor unit 102. The fire-extinguisher tamper sensor reports tampering with or use of a fire-extinguisher. In one embodiment the fire-extinguisher tamper sensor reports that the fire extinguisher has been removed from its mounting, that a fire extinguisher compartment has been opened, and/or that a safety lock on the fire extinguisher has been removed.

[0082] It will be evident to those skilled in the art that the invention is not limited to the details of the foregoing illustrated embodiments and that the present invention may be embodied in other specific forms without departing from the spirit or essential attributed thereof; furthermore, various omissions, substitutions and changes may be made without departing from the spirit of the inventions. For example, although specific embodiments are described in terms of the 900

MHz frequency band, one of ordinary skill in the art will recognize that frequency bands above and below 900 MHz can be used as well. The wireless system can be configured to operate on one or more frequency bands, such as, for example, the HF band, the VHF band, the UHF band, the Microwave band, the Millimeter wave band, etc. One of ordinary skill in the art will further recognize that techniques other than spread spectrum can also be used and/or can be use instead spread spectrum. The modulation uses is not limited to any particular modulation method, such that modulation scheme used can be, for example, frequency modulation, phase modulation, amplitude modulation, combinations thereof, etc. The foregoing description of the embodiments is therefore to be considered in all respects as illustrative and not restrictive, with the scope of the invention being delineated by the appended claims and their equivalents.

WHAT IS CLAIMED IS:

1. An audio-enabled wireless device configured for bidirectional wireless communication in a wireless mesh network, the wireless device comprising:
 - a wireless transceiver;
 - an audio output element;
 - a reset element; and
 - a controller operatively coupled to the wireless transceiver, the audio output element, and the reset element, the controller being configured to:
 - receive a communication packet using the wireless transceiver, the communication packet including a preamble portion, an identification code portion, a data payload portion, and an integrity portion;
 - compare at least the identification code portion of the received communication packet to a table of identifiers stored in the audio-enabled wireless device;
 - based on the comparison of the identification code portion of the received communication packet matching an entry in the table of identifiers stored in the audio-enabled wireless device, determine to relay the communication packet to another audio-enabled wireless device; and
 - relay the communication packet to the other audio-enabled wireless device.
2. The audio-enabled wireless device of claim 1, the controller configured to:
 - prior to the relay of the communication packet, listen to a radio frequency channel to determine the radio frequency channel is not in use by another device; and
 - transmit, via the radio frequency channel, the communication packet.
3. The audio-enabled wireless device of claim 2, the controller configured to:
 - prior to the transmission of the communication packet, determine a delay value; and
 - wait the determined delay value before the transmission of the communication packet.
4. The audio-enabled wireless device of claim 3, wherein the delay value is a random delay value.

5. The audio-enabled wireless device of claim 1, wherein if the identification code portion of the received communication packet does not match an entry in the table of identifiers stored in the audio-enabled wireless device, the controller is configured to not relay the communication packet.

6. The audio-enabled wireless device of claim 1, wherein the wireless transceiver is configured for spread-spectrum communication, and wherein the wireless transceiver is configured to communicate in one or more frequency bands above a 900 MHz band.

7. The audio-enabled wireless device of claim 1, wherein the audio-enabled wireless device includes an Ethernet network connection, and wherein the controller is configured to communicate, using the Ethernet connection, via the Internet.

8. The wireless device of claim 1, wherein the reset element is a reset switch and wherein the reset switch is configured to activate a reset function.

9. A method of forwarding a communication packet by a audio-enabled wireless device, the method comprising:

receiving, by the audio-enabled wireless device using a wireless transceiver configured for bidirectional wireless communication, the communication packet, the communication packet including a preamble portion, an identification code portion, a data payload portion, and an integrity portion, the audio-enabled wireless device including an audio output element and a reset element;

comparing at least the identification code portion of the received communication packet to a table of identifiers stored in the audio-enabled wireless device;

based on the comparing indicating that the identification code portion of the received communication packet matches an entry in the table of identifiers stored in the audio-enabled wireless device, determining to relay the communication packet to another audio-enabled wireless device; and

relaying the communication packet to the other audio-enabled wireless device.

10. The method of claim 9, comprising:

prior to the relaying the communication packet, listening to a radio frequency channel to determine the radio frequency channel is not in use by another device; and

transmitting, via the radio frequency channel, the communication packet.

11. The method of claim 10, comprising:

prior to the transmitting the communication packet, determining a delay value; and waiting the determined delay value before the transmitting the communication packet.

12. The method of claim 11, wherein the delay value is a random delay value.

13. The method of claim 9, wherein the wireless transceiver is configured for spread-spectrum communication and wherein the wireless transceiver is configured to communicate in one or more frequency bands above a 900 MHz band.

14. The method of claim 9, wherein the reset element is a reset switch, the method comprising:

activating a reset function of the audio-enabled wireless device in response to an input to the reset switch.

15. A wireless mesh network system, comprising:

multiple audio-enabled wireless devices, each of the multiple audio-enabled wireless devices comprising a wireless transceiver, a reset element, and an audio output element, each of the audio-enabled wireless devices being configured to:

receive, using the wireless transceiver a communication packet, the communication packet including a preamble portion, an identification code portion, a data payload portion, and an integrity portion;

compare at least the identification code portion of the received communication packet to a table of identifiers stored in the audio-enabled wireless device;

based on the comparison of the identification code portion of the received communication packet matching an entry in the table of identifiers stored in the audio-enabled wireless device, determine to relay the communication packet to another of the multiple audio-enabled wireless devices; and

relay the communication packet to the other of the multiple audio-enabled wireless devices.

16. The wireless mesh network system of claim 15, wherein one or more of the multiple audio-enabled wireless devices includes an Ethernet network connection, the one or more of the multiple audio-enabled wireless devices being configured to:

communicate, using the Ethernet network connection, via the Internet; and

transmit one or more commands to other of the multiple audio-enabled wireless devices.

17. The wireless mesh network system of claim 15, wherein each of the multiple audio-enabled wireless devices is configured for spread-spectrum communication and wherein each of the multiple audio-enabled wireless devices is configured to communicate in one or more frequency bands above a 900 MHz band.

18. The wireless mesh network system of claim 15, wherein each of the multiple audio-enabled wireless devices is configured to:

prior to a transmission of one or more communication packets, listen to a radio frequency channel to determine the radio frequency channel is not in use by another device; and
transmit, via the radio frequency channel, the one or more communication packets.

19. The wireless mesh network system of claim 15, wherein each of the multiple audio-enabled wireless devices is configured to:

listen to a radio frequency channel to determine if the radio frequency channel is in use;
and
switch to a different radio frequency channel when the radio frequency channel is in use.

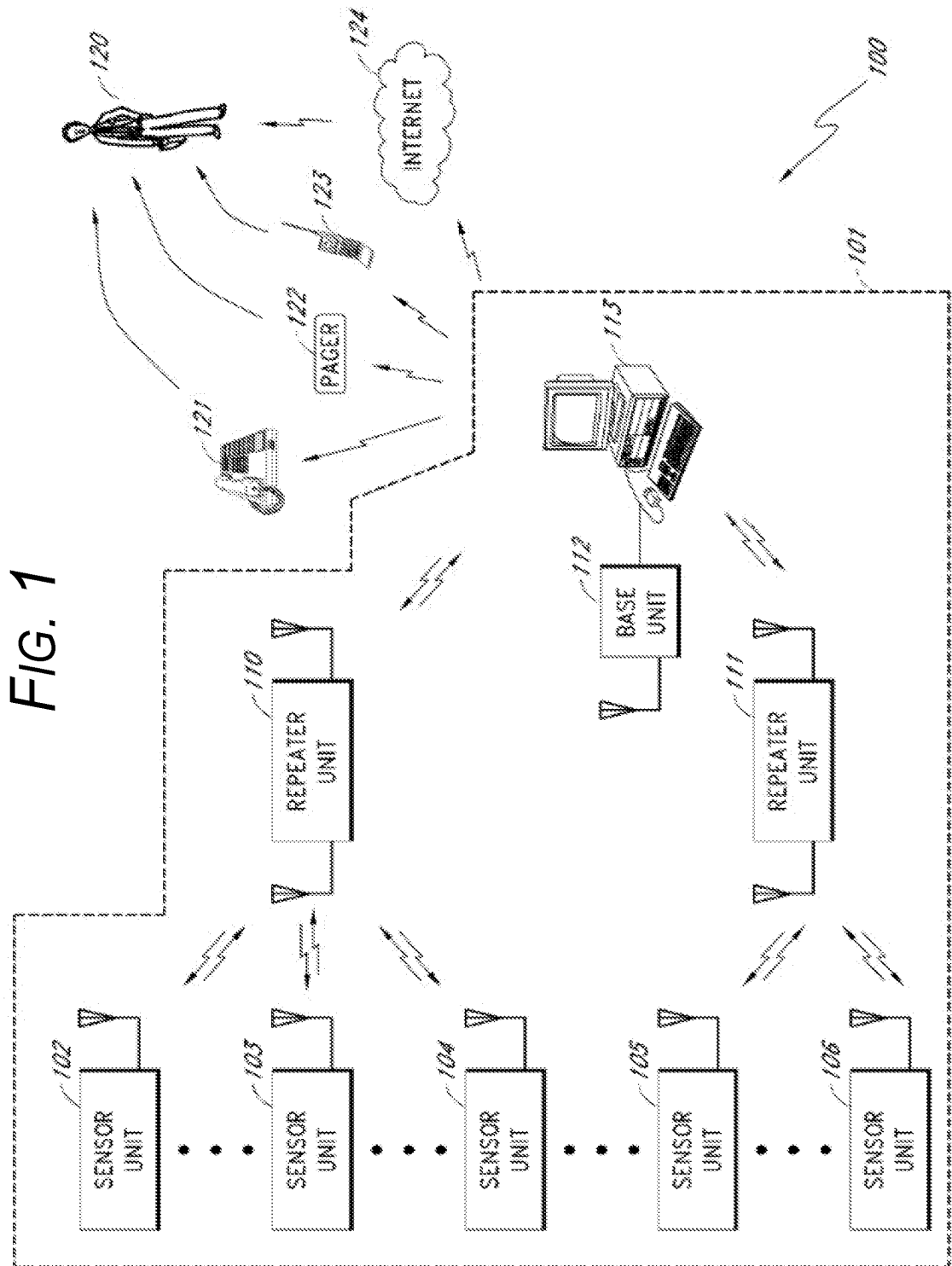
20. The wireless mesh network system of claim 15, wherein each of the multiple audio-enabled wireless devices is configured to:

prior to a transmission of one or more communication packets, determine a delay value;
and
wait the determined delay value before the transmission of the one or more communication packets.

ABSTRACT

Various embodiments of wireless ambient sensor unit are presented. The sensor unit may include a wireless transceiver configured to transmit sensor data and to receive instructions. The sensor unit may include a sensor configured to measure an ambient condition. The sensor unit may include a controller in communication with the wireless transceiver and the sensor. The controller may be configured to compare data measured about the ambient condition to a stored threshold while the wireless ambient sensor unit is functioning in a low-power mode. The controller may be configured to exit the low-power mode in response to the comparison of the data with the stored threshold. The controller may be configured to cause the data measured about the ambient condition to be transmitted by the wireless transceiver as one or more messages in response to the comparison to the stored threshold.

+



+

+

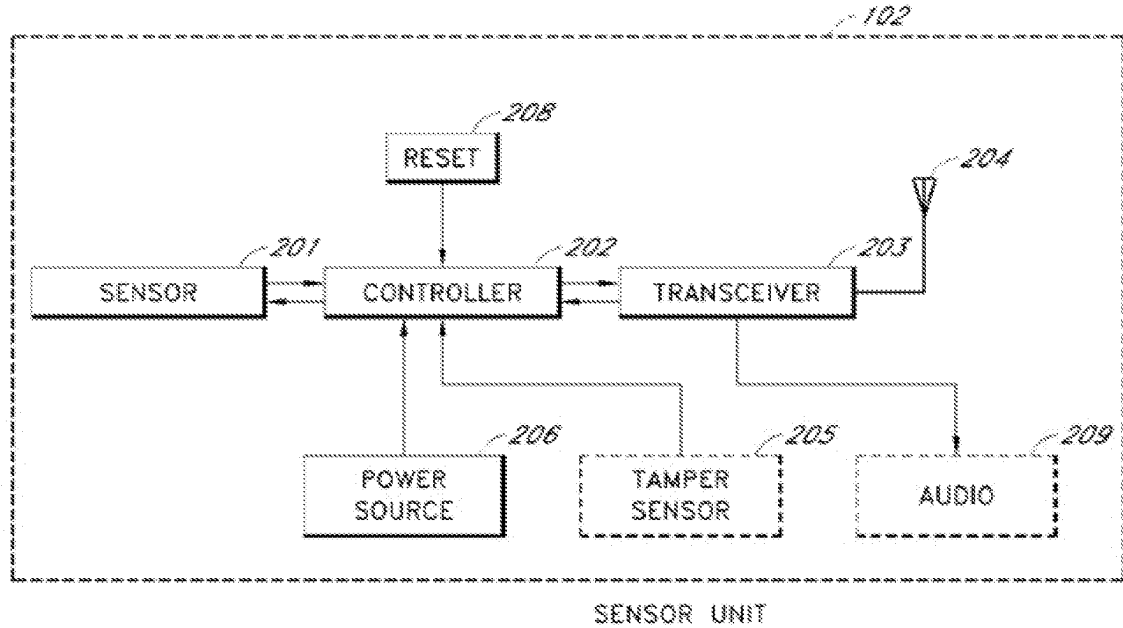


FIG. 2

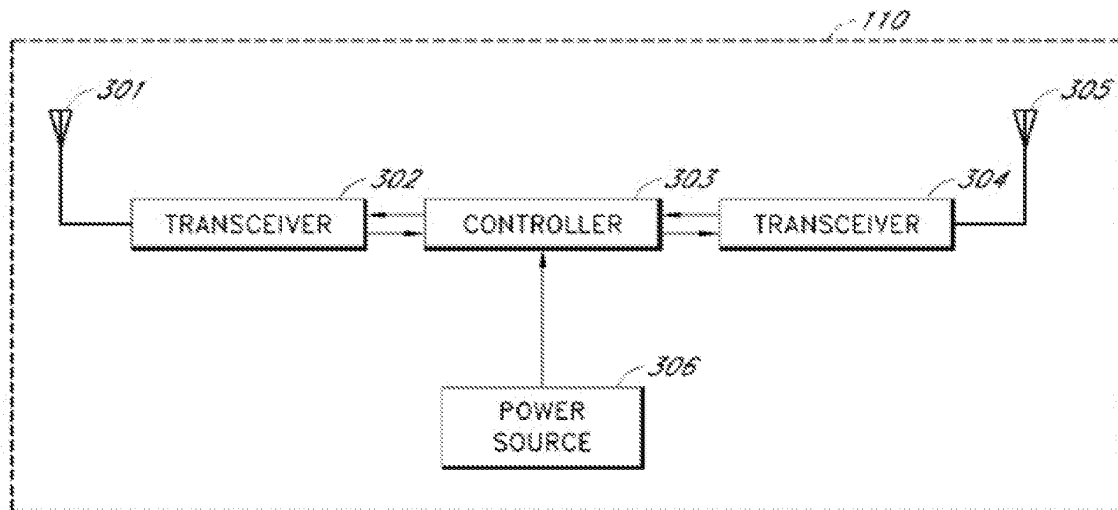


FIG. 3

+

+

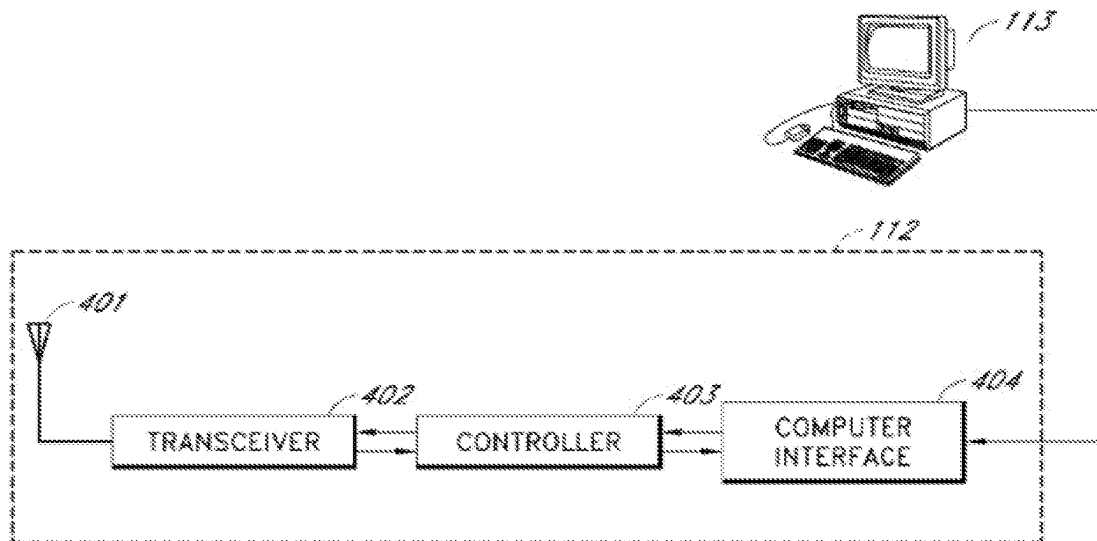


FIG. 4

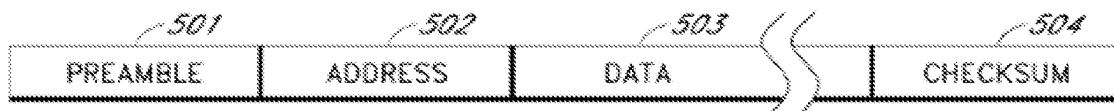


FIG. 5

+

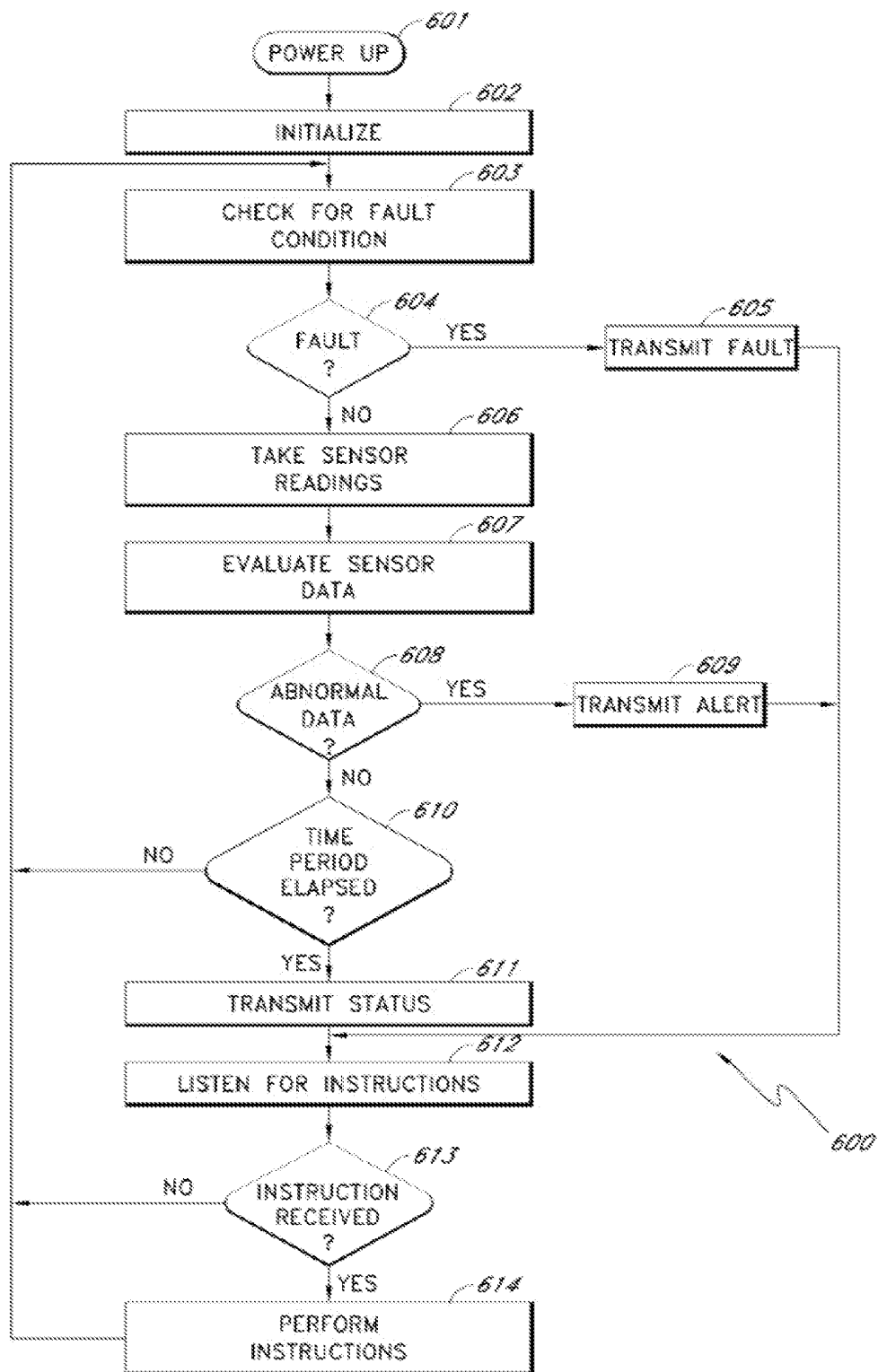
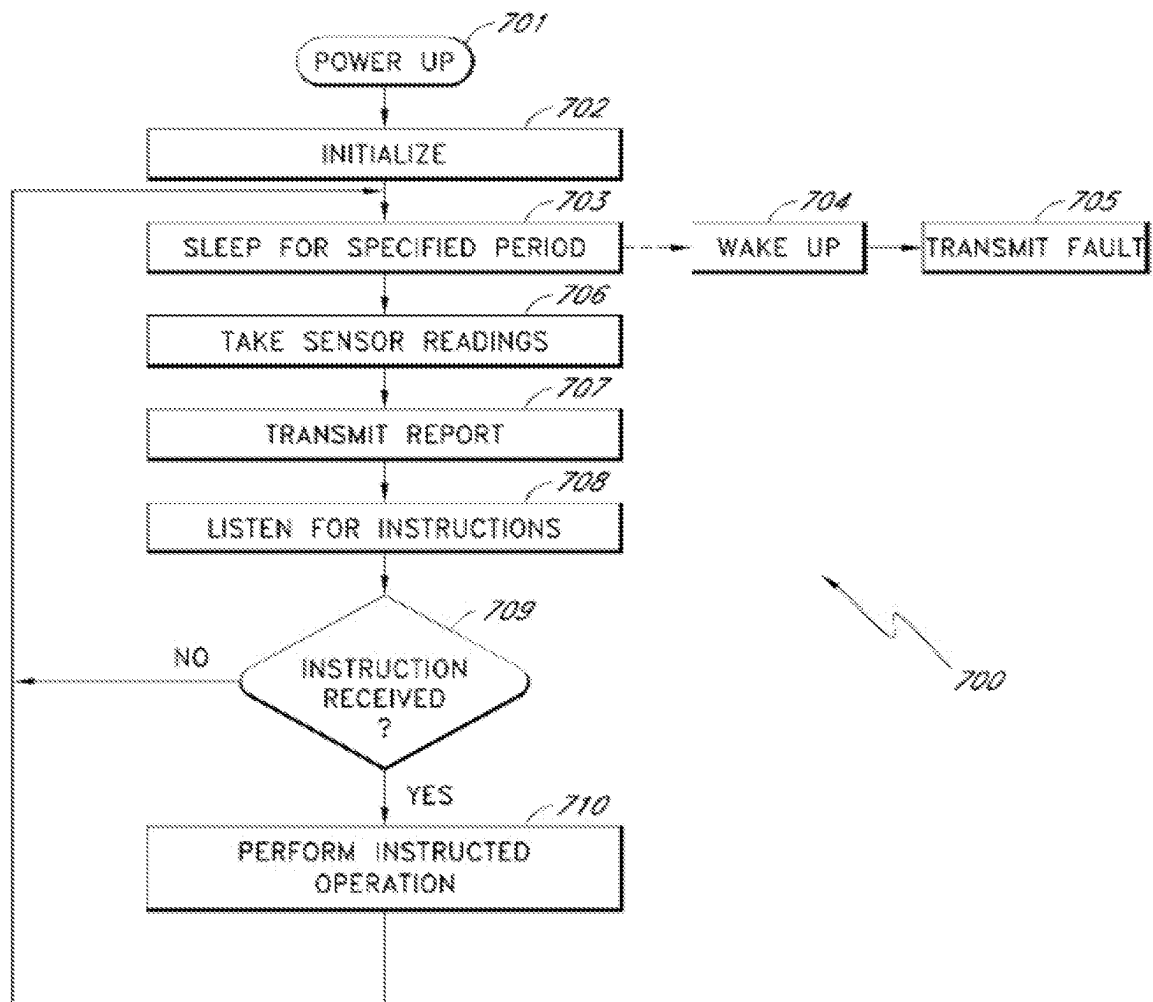


FIG. 6

+

*FIG. 7*

+

+

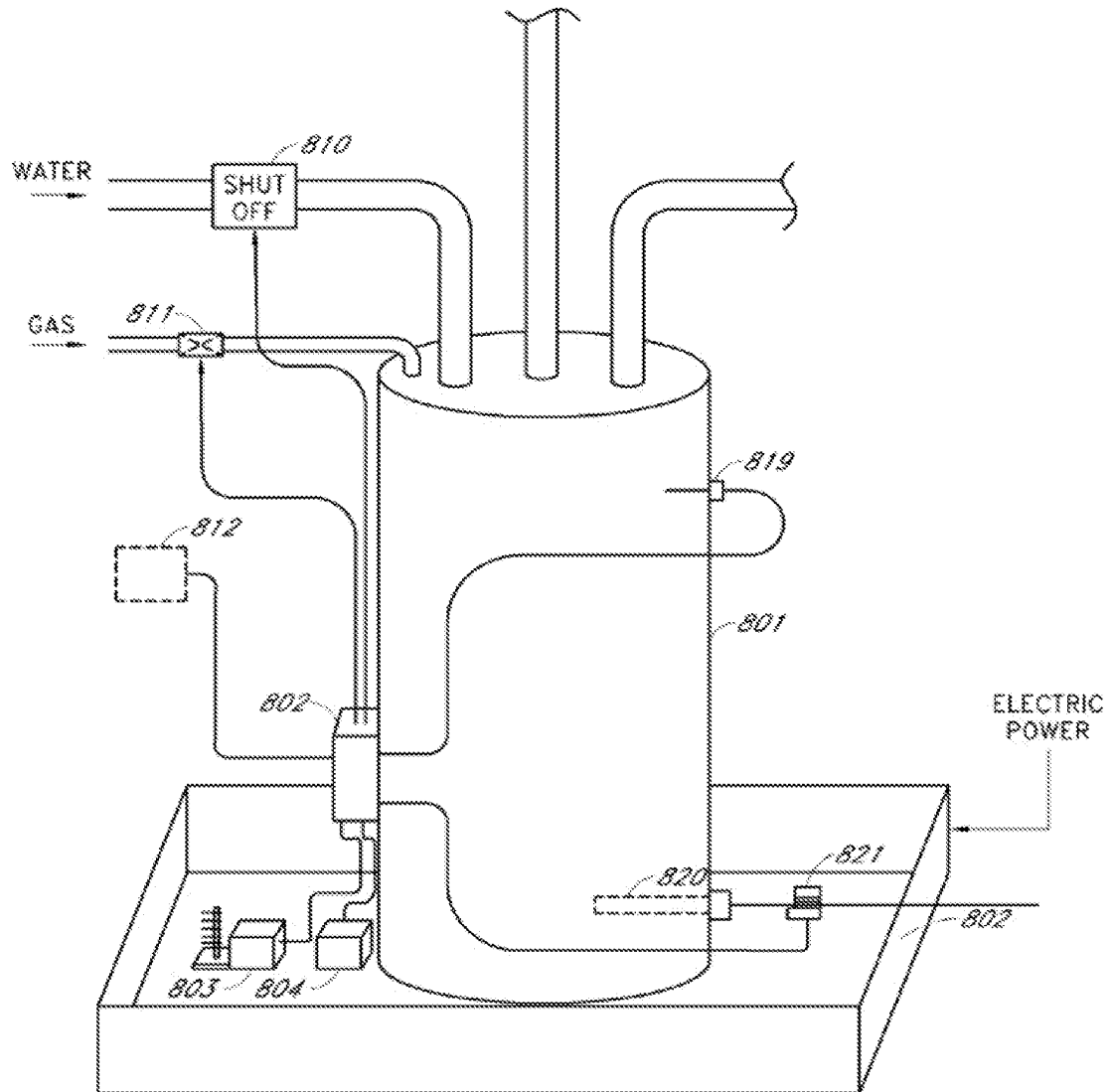


FIG. 8

+

+

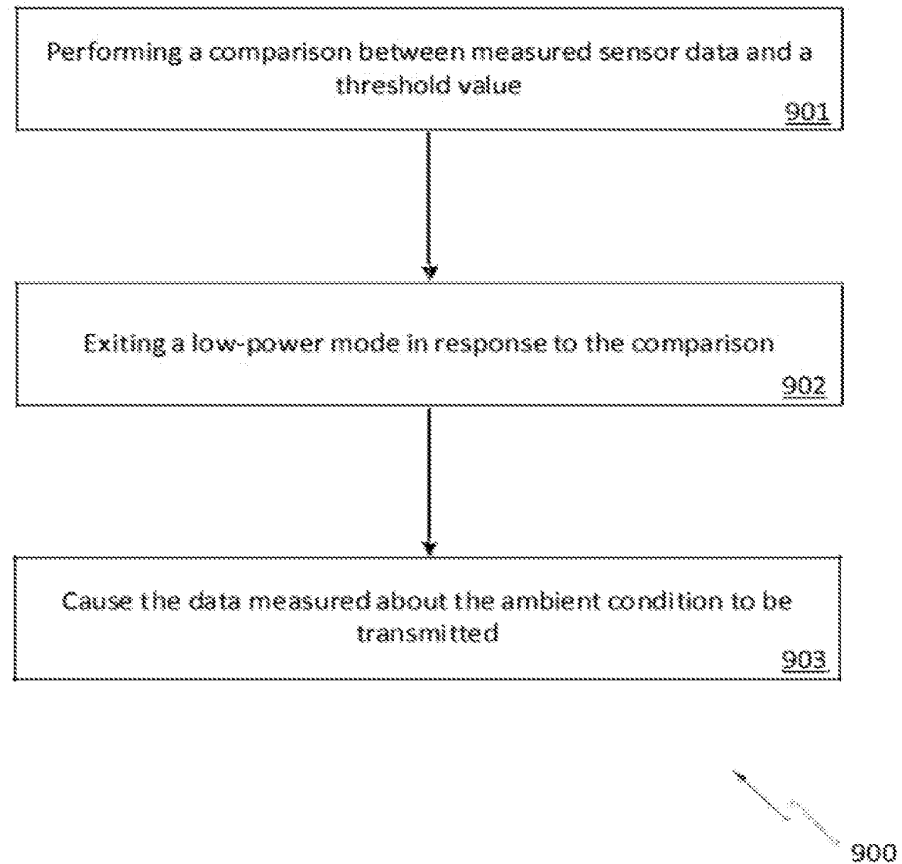


FIG. 9

+

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	563800USCON19
		Application Number	
Title of Invention	Relaying Communications in a Wireless Sensor System		
<p>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.</p> <p>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.</p>			

Secrecy Order 37 CFR 5.2:

<input type="checkbox"/>	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		
	Lawrence		Kates			
Residence Information (Select One) • US Residency Non US Residency Active US Military Service						
City	Corona Del Mar	State/Province	CA	Country of Residence	US	
Mailing Address of Inventor:						
Address 1		1600 Amphitheatre Parkway				
Address 2						
City	Mountain View	State/Province	CA			
Postal Code	94043	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).			
<input type="checkbox"/> An Address is being provided for the correspondence information of this application.			
Customer Number	149118		
Email Address	docket@colbynipper.com	Add Email	Remove Email

Application Information:

Title of the Invention	Relaying Communications in a Wireless Sensor System		
Attorney Docket Number	563800USCON19	Small Entity Status Claimed	<input type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	7	Suggested Figure for Publication (if any)	1

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	563800USCON19
		Application Number	
Title of Invention	Relaying Communications in a Wireless Sensor System		

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.

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:	<input checked="" type="radio"/> Customer Number	US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	149118		

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)
	Continuation of	15841127	2017-12-13

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		563800USCON19	
				Application Number			
Title of Invention		Relaying Communications in a Wireless Sensor System					

Prior Application Status		Patented				Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)		
15841127	Continuation of	15601705	2017-05-22	9872249	2018-01-16		
Prior Application Status		Patented				Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)		
15601705	Continuation of	15090973	2016-04-05	9723559	2017-08-01		
Prior Application Status		Patented				Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)		
15090973	Continuation of	14548137	2014-11-19	9318015	2016-04-19		
Prior Application Status		Patented				Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)		
14548137	Continuation of	14168876	2014-01-30	9357490	2016-05-31		
Prior Application Status		Abandoned				Remove	
Application Number		Continuity Type		Prior Application Number		Filing or 371(c) Date (YYYY-MM-DD)	
14168876		Continuation of		12905248		2010-10-15	
Prior Application Status		Patented				Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)		
12905248	Continuation of	12182079	2008-07-29	7817031	2010-10-19		
Prior Application Status		Patented				Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)		
12182079	Division of	11562313	2006-11-21	7411494	2008-08-12		
Prior Application Status		Patented				Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)		
11562313	Continuation of	10856231	2004-05-27	7142107	2006-11-28		
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.							

Foreign Priority Information:

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	563800USCON19
		Application Number	
Title of Invention	Relaying Communications in a Wireless Sensor 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).

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	563800USCON19
		Application Number	
Title of Invention	Relaying Communications in a Wireless Sensor 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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	563800USCON19
		Application Number	
Title of Invention	Relaying Communications in a Wireless Sensor 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 Remove		
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			
<input type="radio"/> 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:			
<div></div>			
Name of the Deceased or Legally Incapacitated Inventor: <div></div>			
If the Applicant is an Organization check here. <input checked="" type="checkbox"/>			
Organization Name	Google LLC		
Mailing Address Information For Applicant:			
Address 1	1600 Amphitheatre Parkway		
Address 2			
City	Mountain View	State/Province	CA
Country	US	Postal Code	94043
Phone Number		Fax Number	
Email Address			
Additional Applicant Data may be generated within this form by selecting the Add button. Add			

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.

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	563800USCON19
		Application Number	
Title of Invention	Relaying Communications in a Wireless Sensor 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.			
<input type="button" value="Remove"/>			
If the Assignee or Non-Applicant Assignee is an Organization check here. <input checked="" type="checkbox"/>			
Organization Name	Google LLC		
Mailing Address Information For Assignee including Non-Applicant Assignee:			
Address 1	1600 Amphitheatre Parkway		
Address 2			
City	Mountain View	State/Province	CA
Country ⁱ	US	Postal Code	94043
Phone Number		Fax Number	
Email Address			
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. <input type="button" value="Add"/>			

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	/Matthew Johnson/		Date (YYYY-MM-DD)	2018-05-13
First Name	Matthew	Last Name	Johnson	Registration Number
				72,299
Additional Signature may be generated within this form by selecting the Add button.				<input type="button" value="Add"/>

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	563800USCON19
		Application Number	
Title of Invention	Relaying Communications in a Wireless Sensor 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.**

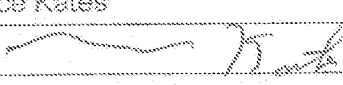
Privacy Act Statement

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 the Freedom of Information Act requires disclosure of these records.
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 inspections 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.

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

Title of Invention	WIRELESS TRANSCEIVER	
<p>As the below named inventor, I hereby declare that:</p> <p>This declaration is directed to: <input type="checkbox"/> The attached application, or <input checked="" type="checkbox"/> United States application or PCT International application number <u>14/168,876</u> filed on <u>January 30, 2014</u></p> <p>The above-identified application was made or authorized to be made by me.</p> <p>I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.</p> <p>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.</p> <p style="text-align: center;">WARNING:</p> <p>Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.</p>		
LEGAL NAME OF INVENTOR		
Inventor:	<u>Lawrence Kates</u>	Date (Optional): _____
Signature:		
<p>Note: An application data sheet (PTO/SE/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.</p>		

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1 minute 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.

SCORE Placeholder Sheet for IFW Content

Application Number: 15978147

Document Date: 05/13/2018

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

- Drawing

At the time of document entry (noted above):

- USPTO employees may access SCORE content via eDAN using the Supplemental Content tab, or via the SCORE web page.
- External customers may access SCORE content via PAIR using the Supplemental Content tab.

Form Revision Date: August 26, 2013

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15978147
	Filing Date	2018-05-13
	First Named Inventor	Kates
	Art Unit	2685
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

U.S.PATENTS							Remove	
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear		
	1							
If you wish to add additional U.S. Patent citation information please click the Add button.							Add	
U.S.PATENT APPLICATION PUBLICATIONS							Remove	
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear		
	1							
If you wish to add additional U.S. Published Application citation information please click the Add button.							Add	
FOREIGN PATENT DOCUMENTS							Remove	
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² ¹	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							
If you wish to add additional Foreign Patent Document citation information please click the Add button								Add
NON-PATENT LITERATURE DOCUMENTS							Remove	
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.						T ⁵

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15978147
	Filing Date		2018-05-13
	First Named Inventor	Kates	
	Art Unit	2685	
	Examiner Name	Unassigned	
	Attorney Docket Number	563800USCON19	

1	Pursuant to MPEP § 2001.6(b) the applicant brings the following co-pending application to the Examiner's attention: 15/978,145.
2	Pursuant to MPEP § 2001.6(b) the applicant brings the following co-pending application to the Examiner's attention: 15/978,149.

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE	
Examiner Signature	Date Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15978147
	Filing Date		2018-05-13
	First Named Inventor	Kates	
	Art Unit	2685	
	Examiner Name	Unassigned	
	Attorney Docket Number	563800USCON19	

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the 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 the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Matthew Johnson/	Date (YYYY-MM-DD)	2018-05-18
Name/Print	Matthew Johnson	Registration Number	72,299

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 the Freedom of Information Act requires disclosure of these records.
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 inspections 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.

Electronic Acknowledgement Receipt	
EFS ID:	32664681
Application Number:	15978147
International Application Number:	
Confirmation Number:	1307
Title of Invention:	Relaying Communications in a Wireless Sensor System
First Named Inventor/Applicant Name:	Lawrence Kates
Customer Number:	149118
Filer:	Michael K. Colby/Travis R. Henderson
Filer Authorized By:	Michael K. Colby
Attorney Docket Number:	563800USCON19
Receipt Date:	18-MAY-2018
Filing Date:	
Time Stamp:	14:47:26
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	Other Reference-Patent/App/Search documents	563800USCON19IDSTransmittal.pdf	58435 3142a3a2ef340dccc8e3b5fe158589a4a1629c71	no	1

Warnings:

Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	563800USCON19Supplemental IDS.pdf	612261 86a2ba9801a491f2644a676cd61038c821a df3cb	no	4
Warnings:					
Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
Total Files Size (in bytes):			670696		
<p>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.</p> <p><u>New Applications Under 35 U.S.C. 111</u> 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.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>					

S/N 15/978,147

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventorship:	Lawrence Kates	Examiner:	Unassigned
Serial No.:	15/978,147	Group Art Unit:	2685
Filed:	May 13, 2018	Docket No.:	563800USCON19
Title:	Relaying Communications in a Wireless Sensor System		

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 et. seq., the referenced materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Supplemental Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication. It is believed no fee is due with this submission, however, if deemed to be required, authorization is hereby granted to charge deposit account 60-1804 for the appropriate fee amount.

Respectfully submitted,

Lawrence Kates

By their Representatives,

Date May 18, 2018

By /Matthew Johnson/
Matthew Johnson
Reg. No. 72,299

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 15/978,147			
APPLICATION AS FILED - PART I									
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY			
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	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), (l), 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))	20 minus 20 =	*				x 100 =	0.00		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*				x 460 =	0.00		
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	1720		
APPLICATION AS AMENDED - PART II									
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus **	=	x =		x =		
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =		x =		
	Application Size Fee (37 CFR 1.16(s))								
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY	
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)	
	Total (37 CFR 1.16(i))	*	Minus **	=	x =		x =		
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =		x =		
	Application Size Fee (37 CFR 1.16(s))								
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY	
TOTAL ADD'L FEE						TOTAL ADD'L FEE			
<p style="font-size: x-small;">* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p style="font-size: x-small;">** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p style="font-size: x-small;">*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p style="font-size: x-small;">The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.</p>									



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
15/978,147	05/13/2018	2685	1720	563800USCON19	20	3

CONFIRMATION NO. 1307

FILING RECEIPT



0000000100026883

149118
Colby Nipper / Google
291 East Shore Drive
Suite 200
Eagle, ID 83616

Date Mailed: 06/06/2018

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)

Lawrence Kates, Corona Del Mar, CA;

Applicant(s)

Google LLC, Mountain View, CA;

Assignment For Published Patent Application

Google LLC, Mountain View, CA

Power of Attorney: The patent practitioners associated with Customer Number 149118

Domestic Priority data as claimed by applicant

This application is a CON of 15/841,127 12/13/2017
which is a CON of 15/601,705 05/22/2017 PAT 9872249
which is a CON of 15/090,973 04/05/2016 PAT 9723559
which is a CON of 14/548,137 11/19/2014 PAT 9318015
which is a CON of 14/168,876 01/30/2014 PAT 9357490
which is a CON of 12/905,248 10/15/2010 ABN
which is a CON of 12/182,079 07/29/2008 PAT 7817031
which is a DIV of 11/562,313 11/21/2006 PAT 7411494
which is a CON of 10/856,231 05/27/2004 PAT 7142107

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: 06/05/2018

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/978,147**

Projected Publication Date: 09/13/2018

Non-Publication Request: No

Early Publication Request: No

Title

Relaying Communications in a Wireless Sensor System

Preliminary Class

340

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

page 2 of 4

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 Assets Control, 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.



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.
15/978,147	05/13/2018	Lawrence Kates	563800USCON19	1307
149118	7590	06/14/2018		
Colby Nipper / Google 291 East Shore Drive Suite 200 Eagle, ID 83616			EXAMINER YACOB, SISAY	
			ART UNIT 2685	PAPER NUMBER
			NOTIFICATION DATE 06/14/2018	DELIVERY MODE ELECTRONIC

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.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket@colbynipper.com



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Doc Code: TRACK1.GRANT

Decision Granting Request for Prioritized Examination (Track I or After RCE)	Application No.: 15/978,147
<p>1. THE REQUEST FILED <u>May 13, 2018</u> IS GRANTED.</p> <p>The above-identified application has met the requirements for prioritized examination</p> <p>A. <input checked="" type="checkbox"/> for an original nonprovisional application (Track I). B. <input type="checkbox"/> for an application undergoing continued examination (RCE).</p> <p>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:</p> <p>A. filing a <u>petition for extension of time</u> to extend the time period for filing a reply; B. filing an <u>amendment to amend the application to contain more than four independent claims, more than thirty total claims</u>, or a multiple dependent claim; C. filing a <u>request for continued examination</u>; 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.</p> <p>Telephone inquiries with regard to this decision should be directed to <u>Michelle R. Eason</u> at (571) 272-4231. In his/her absence, calls may be directed to Brian W. Brown at (571) 272-5338.</p> <p><u>/Michelle R. Eason/</u> (Signature)</p> <p><u>Paralegal Specialist, Office of Petitions</u> (Title)</p>	

U.S. Patent and Trademark Office
PTO-2298 (Rev. 02-2012)

Office of Petitions: Routing Sheet



Application No.

This application is being forwarded to your office for further processing. A decision has been rendered on a petition filed in this application, as indicated below. For details of this decision, please see the document PET.OP.DEC filed on the same date as this document.

☒ **GRANTED**

☐ **DISMISSED**

☐ **DENIED**

Office of Petitions: Decision Count Sheet

Mailing Month

6

Application No.

15978147



For US serial numbers: enter number only, no slashes or commas. Ex: 10123456

For PCT: enter "51+single digit of year of filing+last 5 numbers", Ex. for PCT/US05/12345, enter 51512345

Deciding Official:

Eason, Michelle

Count (1) - Palm Credit

15978147

Decision: GRANT

FINANCE WORK NEEDED

☐ Select Check Box for YES

Decision Type: 643 - Track One request



Notes:

Count (2)

Decision: n/a

FINANCE WORK NEEDED

☐ Select Check Box for YES

Decision Type: NONE

Notes:

Count (3)

Decision: n/a

FINANCE WORK NEEDED

☐ Select Check Box for YES

Decision Type: NONE

Notes:

Initials of Approving Official (if required)

If more than 3 decisions, attach
2nd count sheet & mark this box

Printed on: 6/11/2018

Office of Petitions Internal Document - Ver. 5.0

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15978147
	Filing Date	2018-05-13
	First Named Inventor	Kates
	Art Unit	2685
	Examiner Name	Ojiako K. Nwugo
	Attorney Docket Number	563800USCON19

U.S.PATENTS							Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
	1	5457680		1995-10-10	KAMM, et al.		
	2	6685104		2004-02-03	FLOAT, et al.		
	3	7026929		2006-04-11	WALLACE		
	4	10015743		2018-07-03	KATES		
If you wish to add additional U.S. Patent citation information please click the Add button.							Add
U.S.PATENT APPLICATION PUBLICATIONS							Remove
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
	1	20030005144		2003-01-02	ENGEL, et al.		
	2	20030174056		2003-09-18	HARSHAW		

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15978147
	Filing Date		2018-05-13
	First Named Inventor	Kates	
	Art Unit	2685	
	Examiner Name	Ojiako K. Nwugo	
Attorney Docket Number		563800USCON19	

	3	20030235175		2003-12-25	NAGHIAN, et al.	
	4	20040075566		2004-04-22	STEPANIK, et al.	
	5	20040239268		2004-12-02	GRUBBA, et al.	
	6	20100109866		2010-05-06	GAVRILA, et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS								<input type="button" value="Remove"/>
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² i	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							

If you wish to add additional Foreign Patent Document citation information please click the Add button.

NON-PATENT LITERATURE DOCUMENTS								<input type="button" value="Remove"/>
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.						T ⁵
	1	"Non-Final Office Action", Application Number 15/821,213, 5/18/18, 8 pages						
	2	"Non-Final Office Action", Application Number 15/841,092, 7/23/18, 10 pages						

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15978147
	Filing Date		2018-05-13
	First Named Inventor	Kates	
	Art Unit	2685	
	Examiner Name	Ojiako K. Nwugo	
	Attorney Docket Number	563800USCON19	

3	"Pre-Interview Communication", Application Number 15/978,149, 7/3/18, 4 pages
4	"Pre-Interview Office Action", Application Number 15/978,145, 07/06/18, 4 pages

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE			
Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15978147
	Filing Date		2018-05-13
	First Named Inventor	Kates	
	Art Unit	2685	
	Examiner Name	Ojiako K. Nwugo	
	Attorney Docket Number	563800USCON19	

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the 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 the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Matthew Johnson/	Date (YYYY-MM-DD)	2018-08-21
Name/Print	Matthew Johnson	Registration Number	72,299

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 the Freedom of Information Act requires disclosure of these records.
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 inspections 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.

Electronic Acknowledgement Receipt	
EFS ID:	33496254
Application Number:	15978147
International Application Number:	
Confirmation Number:	1307
Title of Invention:	Relaying Communications in a Wireless Sensor System
First Named Inventor/Applicant Name:	Lawrence Kates
Customer Number:	149118
Filer:	Michael K. Colby/Travis R. Henderson
Filer Authorized By:	Michael K. Colby
Attorney Docket Number:	563800USCON19
Receipt Date:	21-AUG-2018
Filing Date:	13-MAY-2018
Time Stamp:	20:01:05
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	563800USCON19IDSTransmittal.pdf	58904 90bf9f92557d50e09a5881fee68f09b81ebd7838	no	1

Warnings:

Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	563800USCON19Supplemental IDS.pdf	612812	no	5
			c2736034a9a543818716a33de90a93e9187b8f20		
Warnings:					
Information:					
3	Other Reference-Patent/App/Search documents	15821213NFOA051818.pdf	742443	no	8
			e5e779660bdeb4d85b882a6e973ff403e907d9a2		
Warnings:					
Information:					
4	Other Reference-Patent/App/Search documents	15841092NFOA072318.pdf	852443	no	10
			10161c5ac56a79d8d8e36c6e13ccb8d85486458a		
Warnings:					
Information:					
5	Other Reference-Patent/App/Search documents	15978145PreIntOA070618.pdf	379379	no	4
			aebef6b7f3c0f0cb90122f662cb477a6ab368482d		
Warnings:					
Information:					
6	Other Reference-Patent/App/Search documents	15978149PreIntComm070318.pdf	370183	no	4
			91072383c3dfc02108889d5a84794c12e545914b		
Warnings:					
Information:					
Total Files Size (in bytes):			3016164		

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.

S/N 15/978,147

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventorship:	Lawrence Kates	Examiner:	Ojiako K. Nwugo
Serial No.:	15/978,147	Group Art Unit:	2685
Filed:	May 13, 2018	Docket No.:	563800USCON19
Title:	Relaying Communications in a Wireless Sensor System		

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 et. seq., the referenced materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicants respectfully request that this Supplemental Information Disclosure Statement be entered and the documents listed on the attached PTO/SB/08a form be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicants request that a copy of the PTO/SB/08a form, initialed as being considered by the Examiner, be returned to the Applicants with the next official communication. It is believed no fee is due with this submission, however, if deemed to be required, authorization is hereby granted to charge deposit account 60-1804 for the appropriate fee amount.

Respectfully submitted,

Google LLC

By their Representatives,

Date August 21, 2018

By /Matthew Johnson/
Matthew Johnson
Reg. No. 72,299



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
15/978,147	05/13/2018	Lawrence Kates	563800USCON19

CONFIRMATION NO. 1307

PUBLICATION NOTICE



OC000000102296924

149118
Colby Nipper / Google
291 East Shore Drive
Suite 200
Eagle, ID 83616

Title:Relaying Communications in a Wireless Sensor System

Publication No.US-2018-0262986-A1

Publication Date:09/13/2018

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publicly available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <https://portal.uspto.gov/pair/PublicPair>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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.
15/978,147	05/13/2018	Lawrence Kates	563800USCON19	1307
149118	7590	09/19/2018		
Colby Nipper / Google 291 East Shore Drive Suite 200 Eagle, ID 83616			EXAMINER NWUGO, OJIAKO K	
			ART UNIT 2685	PAPER NUMBER
			NOTIFICATION DATE 09/19/2018	DELIVERY MODE ELECTRONIC

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.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docket@colbynipper.com

Continuation of Application Papers 11): 5/13/2018

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.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP §§ 706.02(I)(1) -

706.02(l)(3) for applications not subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp.

3. **Claim 1** is provisionally rejected on the ground of nonstatutory double patenting as being unpatentable over **claim 2** of copending Application No. 15601705 in view of claim 27 of US9019110

Independent claims 9 and 15 are analogous to claim 1 and are similarly rejected.

Claim 2, is further provisionally rejected on the ground of nonstatutory double patenting as being unpatentable over **claim 11** of copending Application No. 15601705.

Claim 3, is further provisionally rejected on the ground of nonstatutory double patenting as being unpatentable over **claim 3** of US7982602.

This is a provisional nonstatutory double patenting rejection.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to OJIAKO K NWUGO whose telephone number is (571)272-9755. The examiner can normally be reached on M-F 6:00 AM-5:00 PM.

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, Hai Phan can be reached on 571 272 6338. 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.

/OJIAKO K NWUGO/
Primary Examiner, Art Unit 2685

Notice of References Cited	Application/Control No. 15/978,147		Applicant(s)/Patent Under Reexamination	
	Examiner OJIAKO K NWUGO		Art Unit 2685	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-20170257826-A1	09-2017	Kates; Lawrence	G08B1/08	1/1
*	B	US-20050275527-A1	12-2005	Kates, Lawrence	G08B1/08	340/539.22
*	C	US-9019110-B2	04-2015	Kates; Lawrence	G01N33/0065	340/628
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

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)
	U	
	V	
	W	
	X	

*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.

U.S. Patent and Trademark Office
PTO-892 (Rev. 01-2001)


Notice of References Cited

Part of Paper No. 20180914

<i>Index of Claims</i> 	Application/Control No. 15/978,147	Applicant(s)/Patent Under Reexamination Kates, Lawrence
	Examiner OJIAKO K NWUGO	Art Unit 2685

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

CLAIMS										
<input type="checkbox"/> Claims renumbered in the same order as presented by applicant <input type="checkbox"/> CPA <input type="checkbox"/> T.D. <input type="checkbox"/> R.1.47										
CLAIM		DATE								
Final	Original	09/14/2018								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
	9	✓								
	10	✓								
	11	✓								
	12	✓								
	13	✓								
	14	✓								
	15	✓								
	16	✓								
	17	✓								
	18	✓								
	19	✓								
	20	✓								

Search Notes 	Application/Control No. 15/978,147	Applicant(s)/Patent Under Reexamination Kates, Lawrence
	Examiner OJIAKO K NWUGO	Art Unit 2685

CPC - Searched*		
Symbol	Date	Examiner
G08B1/08 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10	09/14/2018	O.N.
G06F1/3209	09/14/2018	O.N.

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
340	573.1, 870.39	09/14/2018	O.N.

* 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
See attached search history, Inventor name search has been completed.	09/14/2018	O.N.
G08B1/08 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10	09/14/2018	O.N.
G06F1/3209	09/14/2018	O.N.
340/573.1, 870.39	09/14/2018	O.N.

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	same as searched	09/14/2018	O.N.

/OJIAKO K NWUGO/ Primary Examiner, Art Unit 2685	
---	--

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	17	(Kates near3 lawrence).inv. and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 15:35
S2	11	(Kates near3 lawrence).inv. and low near power near3 mode and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 15:36
S3	1	("20140203943" "20110025501" "20080278316" "20070090946" "20050275528").pn. and low near power near3 mode and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 15:43
S4	232	(sensor\$1 detector\$1) and (low near power near3 mode with (transmit transmission)) and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 15:45
S5	10	(sensor\$1 detector\$1) and (low near power near3 mode with (transmit transmission)) with threshold and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 15:46
S6	0	(09/194809).APP.	US-PGPUB; USOCR	OR	OFF	2015/02/20 15:48
S7	31	(sensor\$1 detector\$1) and (((low near power near3 mode) (sleep)) with (transmit transmission)) with threshold and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 15:50
S8	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).pn. and low near power near3 mode and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	OFF	2015/02/20 16:05

			IBM_TDB			
S9	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).pn. and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:06
S11	129	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and low near power near3 mode and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:07
S10	137	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and low near power near3 mode and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:07
S12	8	Gas with (sensor\$1 detector\$1) and (((low near power near3 mode) (sleep)) with (transmit transmission)) with threshold and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:15
S13	7	ambient with (sensor\$1 detector\$1) and (((low near power near3 mode) (sleep)) with (transmit transmission)) with threshold and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:17
S15	1	gas with (sensor\$1 detector\$1) with (((low near power near3 mode) (sleep)) with (transmit transmission)) and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:18
S14	87	gas with (sensor\$1 detector\$1) and (((low near power near3 mode) (sleep)) with (transmit transmission)) and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:18
S16	76	gas with (sensor\$1 detector\$1) and (((low near power near3 mode) (sleep)) with (transmit transmission)) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:19
S18	51	gas with (sensor\$1 detector\$1) and (((low near power near3 mode) (sleep)) with (transmit transmission)) and (address identifier identity) and	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	OFF	2015/02/20 16:44

		@ad<="20040527" not (kates near3 lawrence).inv.	JPO; DERWENT; IBM_TDB			
S17	1	gas with (sensor\$1 detector\$1) and (((low near power near3 mode) (sleep)) with (transmit transmission)) with (address identifier identity) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:44
S19	5	gas with (sensor\$1 detector\$1) and (((low near power near3 mode) (sleep)) with (transmit transmission)) and (sensor detector) with (address identifier identity) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:45
S21	4	(sensor\$1 detector\$1) and (((low near power near3 mode) (sleep)) with (transmit transmission)) with (sensor detector) with (address identifier identity) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:47
S20	100	(sensor\$1 detector\$1) and (((low near power near3 mode) (sleep)) with (transmit transmission)) and (sensor detector) with (address identifier identity) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:47
S23	1	Gas with (sensor\$1 detector\$1) with (address identifier identity) with (transmission message) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:52
S22	249	Gas with (sensor\$1 detector\$1) with (address identifier identity) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:52
S25	0	(ambient enviromental) with (sensor\$1 detector\$1) with (address identifier identity) with (transmission message) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:53
S24	834	(sensor\$1 detector\$1) with (address identifier identity) with (transmission message) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 16:53
S26	30	wireless with (sensor\$1 detector\$1) with (address identifier identity) with	US-PGPUB; USPAT;	OR	OFF	2015/02/20 16:54

		(transmission message) and @ad<="20040527" not (kates near3 lawrence).inv.	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S29	58	wireless and (sensor\$1 detector\$1) with (address identifier identity) with (installation (set\$1up)) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 17:23
S28	198	(sensor\$1 detector\$1) with (address identifier identity) with (installation (set\$1up)) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 17:23
S27	0	wireless with (sensor\$1 detector\$1) with (address identifier identity) with (installation (set\$1up)) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 17:23
S30	19	wireless and (sensor\$1 detector\$1) with (identifier identity) with (installation (set\$1up)) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/20 17:24
S31	48	(sensor\$1 detector\$1) with (identifier identity adress) with (installation (set\$1up)) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/22 03:31
S32	8	(sensor\$1 detector\$1) with (identifier identity adress) with (installation (set\$1up)) with (controller processor micro\$1processor) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/22 03:32
S33	451	(sensor\$1 detector\$1) with (sleep stand\$1by low\$1power) with (transceiver transmitter receiver) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/22 03:53
S36	65	(sensor\$1 detector\$1) with (sleep stand\$1by low\$1power) with (transceiver) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/22 03:54

S35	0	(sensor\$1 detector\$1) with (sleep stand\$1by low\$1power) with (tranceiver) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/22 03:54
S34	217	(sensor\$1 detector\$1) with (sleep stand\$1by low\$1power) with (tranceiver transmitter) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/22 03:54
S37	0	(Gas oxygen carbon) with (sensor\$1 detector\$1) with (sleep stand\$1by low\$1power) with (transceiver) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/22 03:56
S38	0	(09/831425).APP.	US-PGPUB; USOCR	OR	OFF	2015/02/22 11:25
S39	10	(sensor\$1 detector\$1) with (sleep stand\$1by low\$1power) with (transceiver) and tamper\$3 and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/22 12:26
S43	9	(sensor\$1 detector\$1) with (sleep stand\$1by low\$1power) with tamper\$3 and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/22 12:29
S42	47	(sensor\$1 detector\$1) and (sleep stand\$1by low\$1power) with tamper\$3 and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/22 12:29
S41	0	(sleep stand\$1by low\$1power) with (transceiver) with tamper\$3 and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/22 12:29
S40	0	(sensor\$1 detector\$1) and (sleep stand\$1by low\$1power) with (transceiver) with tamper\$3 and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/22 12:29
S44	4	network with routing near3 table and @ad<="20040527" and (Gutierrez).inv.	US-PGPUB; USPAT; USOCR;	OR	OFF	2015/02/22 17:16

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S45	317	(sensor\$1 detector\$1) with (message signal) with authentication and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/22 17:20
S46	37	(sensor\$1 detector\$1) with (message) with authentication and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/02/22 17:21
S47	2301	alarm with transmi\$3 with (data measure\$4) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/05/07 12:22
S49	1020	"340"/\$.ccls. and alarm with transmit\$3 with (data measure\$4) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/05/07 12:23
S48	4652	alarm with transmit\$3 with (data measure\$4) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/05/07 12:23
S50	84	"340"/573.1.ccls. and alarm with transmit\$3 with (data measure\$4) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/05/07 12:50
S52	12	(low near3 power near3 mode with (transmit transmission)) with threshold and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/08/26 12:53
S51	11	(low near power near3 mode with (transmit transmission)) with threshold and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/08/26 12:53
S55	366	((low near3 power near3 mode)(sleep	US-PGPUB;	OR	OFF	2015/08/26

		with power) with (transmit\$1 transmission)) with threshold and @ad<="20040527"	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			12:54
S54	366	((low near3 power near3 mode)(sleep with power) with (transmit transmission)) with threshold and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/08/26 12:54
S53	385	((low near3 power near3 mode)(sleep with (transmit transmission)) with threshold and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/08/26 12:54
S56	368	((low near3 power near3 mode)(sleep with power) with (transmit\$3 transmission)) with threshold and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/08/26 12:55
S57	26	((low near3 power near3 mode)(sleep with power)) with (transmit\$3 transmission)) with threshold and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/08/26 12:57
S58	22	(sensor\$1 detector\$1) with (message) with checksum and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/08/26 14:03
S60	2	"US 20150070192"	US-PGPUB; USPAT; USOCR; DERWENT	OR	OFF	2015/08/26 14:25
S59	2	"US 20140118109"	US-PGPUB; USPAT; USOCR; DERWENT	OR	OFF	2015/08/26 14:25
S61	4	(sensor\$1 detector\$1) with (message) with checksum and encryp\$3 and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/08/26 15:17
S62	2	((wireless remote) near3 (sensor\$1 detector\$1)) and (message) with checksum with encrypt\$3 and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	OFF	2015/08/26 15:19

			DERWENT; IBM_TDB			
S64	138	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and low near power near3 mode and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/08/26 17:24
S63	84	"340"/573.1.ccls. and alarm with transmit\$3 with (data measure\$4) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/08/26 17:24
S65	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).pn. and low near power near3 mode and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/12/03 16:39
S66	87	340/573.1,870.39.ccls. and alarm with transmit\$3 with (data measure\$4) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/12/03 16:40
S68	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).pn. and alarm with transmit\$3 with (data measure\$4) with ambient with power with encrypted and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/12/03 16:56
S67	0	340/573.1,870.39.ccls. and alarm with transmit\$3 with (data measure\$4) with ambient with power with encrypted and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/12/03 16:56
S69	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and alarm with transmit\$3 with (data measure\$4) with ambient with power with encrypted and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2015/12/03 16:58
S70	235	((("Kates") near2 ("Lawrence"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/12/03 17:00
S76	1	"20040164855".pn.	US-PGPUB; USPAT; USOCR; JPO; IBM_TDB	OR	OFF	2016/11/03 10:55
S75	1	"2004164855".pn.	US-PGPUB; USPAT;	OR	OFF	2016/11/03 10:55

			USOCR; JPO; IBM_TDB			
S79	87	340/573.1,870.39.ccls. and alarm with transmit\$3 with (data measure\$4) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/03 10:56
S78	131	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and low near power near3 mode and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/03 10:56
S77	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).pn. and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/03 10:56
S80	4740	alarm with transmit\$3 with (data measure\$4) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/11/03 10:57
S83	87	340/573.1,870.39.ccls. and alarm with transmit\$3 with (data measure\$4) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/02/27 12:34
S82	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).pn. and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/02/27 12:34
S81	259	((("Kates") near2 ("Lawrence")).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/02/27 12:34
S88	31	(sensor\$1 detector\$1) and ((low near power near3 mode) (sleep)) with (transmit transmission) with threshold and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/06/09 11:18
S90	0	(message) with checksum with authent\$4 and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/06/09 15:02

S89	0	(sensor\$1 detector\$1) with (message) with checksum with authent\$4 and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/06/09 15:02
S93	0	"15601705"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/06/09 18:03
S92	0	"15601705"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/06/09 18:03
S91	87	340/573.1,870.39.ccls. and alarm with transmit\$3 with (data measure\$4) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/06/09 18:03
S94	136	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and low near power near3 mode and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/06/09 18:04
S95	89	340/573.1,870.39.ccls. and alarm with transmit\$3 with (data measure\$4) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/02 00:21
S96	263	((("KATES") near3 ("Lawrence"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/10/02 00:22
S98	138	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and low near power near3 mode and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/02 00:24
S97	89	340/573.1,870.39.ccls. and alarm with transmit\$3 with (data measure\$4) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/10/02 00:24
S102	265	((("KATES") near3 ("Lawrence"))).INV.	US-PGPUB; USPAT;	OR	OFF	2018/01/21 22:00

			USOCR			
S103	138	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and low near power near3 mode and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/01/21 22:01
S104	88	340/573.1,870.39.ccls. and alarm with transmit\$3 with(data measure\$4) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/01/21 22:07
S106	0	"15841127"	USPAT	OR	OFF	2018/01/22 11:16
S108	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and (checksum with authenticity) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/01/22 11:18
S107	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and (checksum with authenticity) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/01/22 11:18
S110	2	(wireless broadcast) with (checksum with authentic\$5) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/01/22 11:19
S109	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and (wireless broadcast) with (checksum with authentic\$5) and @ad<="20040527" not (kates near3 lawrence).inv.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/01/22 11:19
S111	265	((("KATES") near3 ("Lawrence"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/01/22 11:29
S112	265	((("KATES") near3 ("Lawrence"))).INV.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/01/22 11:31
S116	1	(sensor\$1 detector\$1) and (audio acoustic sound speaker) with reset\$3 with (relay retransm\$5) and (rout\$3 near3 table) and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 12:10
S117	2	(sensor\$1 detector\$1) with (audio acoustic sound speaker) with reset\$3	US-PGPUB; USPAT;	OR	OFF	2018/09/12 12:13

		and (relay retransm\$5) and (rout\$3 near3 table) and @ad<="20040527"	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S118	2	(sensor\$1 detector\$1 node\$1) with (audio acoustic sound speaker) with reset\$3 and (relay retransm\$5) and (rout\$3 near3 table) and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 12:42
S119	7	(sensor\$1 detector\$1 node\$1) with (audio acoustic sound speaker alert\$3 alarm\$3 notify notification) with (reset\$3 deactivat\$3) and (relay retransm\$5) and (rout\$3 near3 table) and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 12:43
S120	0	(sensor\$1 detector\$1 node\$1) with (relay retransm\$5) with (rout\$3 near3 table) and (audio acoustic sound speaker alert\$3 alarm\$3 notify notification) with (reset\$3 deactivat\$3) and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 13:06
S121	0	(sensor\$1 detector\$1 node\$1) with (relay retransm\$5) with (rout\$3 near3 table) with (audio acoustic sound speaker alert\$3 alarm\$3 notify notification) and (reset\$3 deactivat\$3) and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 13:07
S122	126	(sensor\$1 detector\$1 node\$1) with (relay retransm\$5) with (rout\$3 near3 table) and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 13:12
S123	2406	(sensor\$1 detector\$1 node\$1) with (audio acoustic sound speaker alert\$3 alarm\$3 notify notification) with (reset\$3 deactivat\$3) and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 13:29
S124	0	S122 and S123	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 13:30
S125	12673	(sensor\$1 detector\$1 node\$1) and (audio acoustic sound speaker alert\$3 alarm\$3 notify notification) with (reset\$3 deactivat\$3) and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 13:33

S127	0	S125 and S126	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 13:34
S126	233	(sensor\$1 detector\$1 node\$1) and (relay retransm\$5) with (rout\$3 near3 table) and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 13:34
S128	196	(sensor\$1 detector\$1 node\$1) with (relay repeat\$3 retransm\$5) with (rout\$3 near3 table) and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 14:00
S129	375	(sensor\$1 detector\$1 node\$1 device apparatus) with (relay repeat\$3 retransm\$5) with (rout\$3 near3 table) and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/12 14:15
S130	4	((("Kates") near2 ("Lawrence")).INV. and (table with (identif\$3 address)).clm.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/09/13 16:36
S131	19	((("Kates") near2 ("Lawrence")).INV. and (reset\$3).clm.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/09/13 20:21
S132	4	((("Kates") near2 ("Lawrence")).INV. and (payload).clm.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/09/14 14:52
S133	4	((("Kates") near2 ("Lawrence")).INV. and (payload).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/14 15:49
S134	1	(15/601705).APP.	USPAT; USOCR	OR	OFF	2018/09/14 17:19
L1	21	((("Kates") near2 ("Lawrence")).INV. and (listen).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/14 19:46
L2	12	((("Kates") near2 ("Lawrence")).INV. and (delay).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/14 20:38

L3	1	(12/182092).APP.	USPAT; USOCR	OR	OFF	2018/09/14 20:41
L4	7	((("Kates") near2 ("Lawrence")).INV. and (random).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/14 20:43
L5	1	(14/339234).APP.	USPAT; USOCR	OR	OFF	2018/09/14 20:45
L7	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).pn. and pay\$1load\$1 and @ad< = "20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/14 20:51
L6	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).pn. and payload and @ad< = "20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/14 20:51
L8	6	340/573.1,870.39.ccls. and pay\$1load\$1 and @ad< = "20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/14 20:53

EAST Search History (I nterference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S71	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).pn. and (alarm with transmit\$3 with (data measure\$4) with ambient with power with encrypted).clm.	US- PGPUB; USPAT	OR	OFF	2015/12/03 16:57
S73	0	340/573.1,870.39.ccls. and (alarm with transmit\$3 with (data measure\$4) with ambient with power with encrypted).clm.	US- PGPUB; USPAT	OR	OFF	2015/12/03 16:58
S72	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and (alarm with transmit\$3 with (data measure\$4) with ambient with power with encrypted).clm.	US- PGPUB; USPAT	OR	OFF	2015/12/03 16:58
S74	0	340/\$.ccls. and (alarm with transmit\$3 with (data measure\$4) with ambient with power with encrypted).clm.	US- PGPUB; USPAT	OR	OFF	2015/12/03 16:59
S84	78	340/573.1,870.39.ccls. and (alarm with transmit\$3 with (data measure\$4)).clm.	US- PGPUB; USPAT	OR	OFF	2017/02/27 12:35
S85	1	340/573.1,870.39.ccls. and (alarm with transmit\$3 with (data measure\$4) with (wake sleep)).clm.	US- PGPUB; USPAT	OR	OFF	2017/02/27 12:36

EAST Search History

S86	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and (alarm with transmit\$3 with (data measure\$4) with (wake sleep)).clm.	US-PGPUB; USPAT	OR	OFF	2017/02/27 12:37
S87	11	(alarm with transmit\$3 with (data measure\$4) with (wake sleep)).clm.	US-PGPUB; USPAT	OR	OFF	2017/02/27 12:49
S101	12	(alarm with transmit\$3 with (data measure\$4) with (wake sleep)).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/02 00:25
S100	0	340/573.1,870.39.ccls. and (alarm with transmit\$3 with (data measure\$4) with ambient with power with encrypted).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/02 00:25
S99	1	340/573.1,870.39.ccls. and (alarm with transmit\$3 with (data measure\$4) with (wake sleep)).clm.	US-PGPUB; USPAT	OR	OFF	2017/10/02 00:25
S105	0	340/573.1,870.39.ccls. and (alarm with transmit\$3 with (data measure\$4) with ambient with power with encrypted).clm.	US-PGPUB; USPAT	OR	OFF	2018/01/21 22:09
S113	0	((G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and (wireless broadcast) with (checksum with authentic\$5)).clm.	US-PGPUB; USPAT	OR	OFF	2018/01/22 11:26
S115	22	(((wireless broadcast) with (checksum with authentic\$5)).clm.	US-PGPUB; USPAT	OR	OFF	2018/01/22 11:27
S114	0	(340/573.1,870.39.ccls. and (wireless broadcast) with (checksum with authentic\$5)).clm.	US-PGPUB; USPAT	OR	OFF	2018/01/22 11:27
L9	0	((G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and pay\$1load\$1 with table).clm.	US-PGPUB; USPAT	OR	OFF	2018/09/14 21:07

9/ 14/ 2018 9:10:07 PM

C:\Users\onwugo\Documents\EAST\Workspaces\15978147.wsp

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

U.S. PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		2101637		1937-12-07	Davis	
		2233297		1941-02-25	Polin et al.	
		3805265		1974-04-16	Lester	
		4056780		1977-11-01	Faulkner, Thomas E.	
		4061442		1977-12-06	Clark et al.	
		4099168		1978-07-04	Kedjierski et al.	
		4136823		1979-01-30	Kullberg, Bengt G.	
		4165024		1979-08-21	Oswalt et al.	
		4226533		1980-10-07	Snowman	
		4266220		1981-05-05	Malinsowski	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		4400694		1983-08-23	Wong et al.	
		4420746		1983-12-13	Malinowski	
		4437336		1984-03-20	Abe	
		4455553		1984-06-19	Johnson	
		4514720		1985-04-30	Oberstein et al.	
		4535450		1985-08-13	Tan	
		4543570		1985-09-24	Bressett et al.	
		4556873		1985-12-03	Yamada et al.	
		4613990		1986-09-23	Halpem	
		4652859		1987-03-24	Van Wienen	
		4661804		1987-04-28	Abel	
		4670739		1987-06-02	Kelly	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		4675661		1987-06-23	Ishii	
		4679742		1987-07-04	Ellis	
		4680583		1987-07-14	Grover	
		4688244		1987-08-18	Hannon et al.	
		4692742		1987-09-08	Raizen et al.	
		4692750		1987-09-08	Murakami et al.	
		4727359		1988-02-23	Yuchi et al.	
		4750197		1988-06-07	Denekamp et al.	
		4772876		1988-09-20	Laud	
		4801856		1989-01-31	Wajima, Hiroki	
		4801865		1989-01-31	Miller et al.	
		4802240		1989-01-31	Yamaguchi et al.	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		4811011		1989-03-07	Sollinger	
		4817131		1989-03-28	Thornborough et al.	
		4817537		1989-04-04	Cripe et al.	
		4827244		1989-05-02	Bellavia et al.	
		4857895		1989-08-15	Kaprelian	
		4862514		1989-08-29	Kedjierski	
		4871999		1989-10-03	Ishii et al.	
		4901316		1990-02-13	Igarashi et al.	
		4916432		1990-04-10	Tice et al.	
		4918690		1990-04-17	Markkula, Jr, Armas C., et al.	
		4939504		1990-07-03	Miller	
		4951029		1990-08-21	Severson	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		4964121		1990-10-16	Moore	
		4977527		1990-12-11	Shaw et al.	
		4996518		1991-02-26	Takahashi et al.	
		5040238		1991-08-13	Comroe et al.	
		5054052		1991-10-01	Nonami	
		5107446		1992-04-21	Shaw et al.	
		5117501		1992-05-26	Childress et al.	
		5129096		1992-07-07	Burns	
		5134644		1992-07-28	Garton et al.	
		5138562		1992-08-11	Shaw et al.	
		5151683		1992-09-29	Takahashi et al.	
		551683		1992-09-29	Takahashi et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5159315		1992-10-27	Takahashi et al.	
		5168262		1992-12-01	Okayama	
		5188143		1993-02-23	Krebs	
		5201061		1993-04-06	Goldberg, Steven J., et al.	
		5210540		1993-05-11	Masumoto	
		5224648		1993-07-06	Simon et al.	
		5229750		1993-07-20	Welch et al.	
		5240022		1993-08-31	Franklin	
		5260687		1993-11-09	Yamauchi et al.	
		5265025		1993-11-23	Hirata	
		5400254		1993-11-23	Hirata	
		5267180		1993-11-30	Okayama	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5281951		1994-01-25	Okayama	
		5295154		1994-03-15	Meier et al.	
		5315291		1994-05-24	Furr	
		5319698		1994-06-07	Glidewell et al.	
		5331637		1994-07-19	Francis et al.	
		5335186		1994-08-02	Tarrant	
		5345224		1994-09-06	Brown	
		5355518		1994-10-11	Kindinger et al.	
		5357241		1994-10-18	Welch	
		5369784		1994-11-29	Nelson	
		5400246		1995-03-21	Wilson et al.	
		5408223		1995-04-18	Guillemot	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5424720		1995-06-13	Kirkpatrick	
		5425051		1995-06-13	Mahany	
		5428964		1995-07-04	Lobdell, Vincent G.	
		5430433		1995-07-04	Shima	
		5432500		1995-07-11	Scripps	
		5442758		1995-08-15	Slingwine et al.	
		5511232		1996-04-23	O'Dea et al.	
		5530433		1996-06-25	Morita	
		5540092		1996-07-30	Handfield, Michael et al.	
		5564626		1996-10-15	Kettler, John P., et al.	
		5565852		1996-10-15	Petlier, Mark A., et al.	
		5565858		1996-10-15	Guthrie	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5568121		1996-10-22	Lamensdorf	
		5574435		1996-11-12	Mochizuki	
		5579306		1996-11-26	Dent	
		5590409		1996-12-31	Sawahashi et al.	
		5596652		1997-01-21	Piatek et al.	
		5604892		1997-02-18	Nuttall et al.	
		5606313		1997-02-25	Allen et al.	
		5627515		1997-05-06	Anderson	
		5640151		1997-06-17	Reis et al.	
		5652751		1997-07-29	Sharony	
		5655561		1997-08-12	Wendel et al.	
		5682379		1997-10-28	Mahany et al.	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5686902		1997-11-11	Reis, Robert S., et al.	
		5719556		1998-02-17	Albin et al.	
		5723848		1998-03-03	Bilenko, George et al.	
		5732007		1998-03-24	Grushin, Anatoly et al.	
		5732077		1998-03-24	Whitehead	
		5736928		1998-04-07	Tice et al.	
		5478092		1998-05-05	Arsenault et al.	
		5748092		1998-05-05	Arsenault et al.	
		5761195		1998-06-02	Lu et al.	
		5790946		1998-08-04	Rotzoll, Robert R.	
		5793882		1998-08-11	Piatek et al.	
		5802274		1998-09-01	Dorak, John et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5833910		1998-11-10	Teixido	
		5854994		1998-12-29	Canada et al.	
		5859536		1999-01-12	Stockton	
		5862803		1999-01-26	Besson	
		5881951		1999-03-16	Carpenter	
		5889468		1999-03-30	Banga	
		5890054		1999-03-30	Lodgson et al.	
		5892441		1999-04-06	Woolley et al.	
		5892758		1999-04-06	Argyroudis	
		5898374		1999-04-27	Schepka	
		5907491		1999-05-25	Canada et al.	
		5913180		1999-06-15	Ryan	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5914656		1999-06-22	Ojala, Roy et al.	
		5917423		1999-06-29	Duvall	
		5917433		1999-06-29	Keillor et al.	
		5923102		1999-07-13	Koenig et al.	
		5939982		1999-08-17	Gagnon et al.	
		5943610		1999-08-24	Endo	
		5949332		1999-09-07	Kim	
		5950124		1999-09-07	Trompower et al.	
		5959529		1999-09-28	Kail, IV	
		5959568		1999-09-28	Woolley, Louis A.	
		5966079		1999-10-12	Tanguay, William P.	
		5973603		1999-10-26	Judy, Leroy H.	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5974236		1999-10-26	Sherman, Michael J.	
		5977913		1999-11-02	Christ	
		6005884		1999-12-21	Cook et al.	
		6006100		1999-12-21	Koenck et al.	
		6025788		2000-02-02	Diduck	
		6023476		2000-02-08	Lo, William	
		6031455		2000-02-29	Grube et al.	
		6046675		2000-04-04	Hanna, Robert L.	
		6049273		2000-04-11	Hess	
		6060994		2000-05-09	Chen	
		6072784		2000-06-06	Agrawal et al.	
		6075451		2000-06-13	Lebowitz et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6078050		2000-06-20	Castleman	
		6078269		2000-06-20	Markwell et al.	
		6078785		2000-06-20	Bush, E W.	
		6078789		2000-06-20	Bodenmann et al.	
		6084522		2000-07-04	Addy	
		6091724		2000-07-18	Chandra et al.	
		6097288		2000-08-01	Koepppe, Jr, Eugene C.	
		6097707		2000-08-01	Hodzic et al.	
		6104512		2000-08-15	Batey et al.	
		6108544		2000-08-22	Dorenbosch, Jheroen P., et al.	
		6108614		2000-08-22	Lincoln, Larry A., et al.	
		6111511		2000-08-29	Sivathanu et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6118988		2000-09-12	Choi	
		6124806		2000-09-26	Cunningham et al.	
		6125306		2000-09-26	Shimada et al.	
		6127928		2000-10-03	Issacman	
		6127976		2000-10-03	Boyd et al.	
		6134587		2000-10-17	Okanoue	
		6134589		2000-10-17	Hultgren, A.	
		6154658		2000-11-28	Caci, Joseph C.	
		6157307		2000-12-05	Hardin	
		6175310		2001-01-16	Gott	
		6192400		2001-02-20	Hanson et al.	
		6198913		2001-03-06	Sung et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6201974		2001-03-13	Lietsalmi et al.	
		6208247		2001-03-27	Agre et al.	
		6215404		2001-04-10	Morales	
		6225894		2001-05-01	Kyrtsos, Christos T.	
		6239690		2001-05-29	Burbidge et al.	
		6246882		2001-06-12	Lachance, Matthieu	
		6256303		2001-07-03	Drakoulis et al.	
		6281840		2001-08-28	Miyoshi, Kenichi et al.	
		6313646		2001-11-06	Davis et al.	
		6313745		2001-11-06	Suzuki	
		6320501		2001-11-20	Tice et al.	
		6354493		2002-03-12	Mon, Jorge	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6360169		2002-03-19	Dudaney	
		6366217		2002-04-02	Cunningham et al.	
		6369714		2002-04-09	Walter	
		6377181		2002-04-23	Kroll et al.	
		6380860		2002-04-30	Goetz	
		6381467		2002-04-30	Hill et al.	
		6388399		2002-05-14	Eckel et al.	
		6404082		2002-06-11	Rasinski et al.	
		6405102		2002-06-11	Swartz et al.	
		6409082		2002-06-25	Davis et al.	
		6418299		2002-07-09	Ramanathan	
		6420973		2002-07-16	Acevedo	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6421539		2002-07-16	Jeong, Jin-soo	
		6421731		2002-07-16	Ciotti, Frank et al.	
		6424260		2002-07-23	Maloney	
		6424264		2002-07-23	Giraldin et al.	
		6427913		2002-08-06	Maloney	
		6437692		2002-08-20	Petite et al.	
		6441731		2002-08-27	Hess	
		6445292		2002-09-03	Jen et al.	
		6452493		2002-09-17	Ma, Xiqing et al.	
		6453687		2002-09-24	Sharood et al.	
		6473607		2002-10-29	Shohara et al.	
		6476708		2002-11-05	Johnson	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6480149		2002-11-12	Twitchell, Robert	
		6481222		2002-11-19	Denniston	
		6489895		2002-12-03	Apelman	
		6512478		2003-01-28	Chien	
		6515283		2003-02-04	Castleman et al.	
		6519509		2003-02-11	Nierlich et al.	
		6526807		2003-03-04	Doumit et al.	
		6529142		2003-03-04	Yeh et al.	
		6535110		2003-03-18	Arora et al.	
		6542114		2003-04-04	Eagleson et al.	
		6547137		2003-04-15	Begelfer et al.	
		6552647		2003-04-22	Thiesen et al.	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6553336		2003-04-22	Johnson et al.	
		6559620		2003-05-06	Zhou et al.	
		6583720		2003-06-24	Quigley	
		6587755		2003-07-01	Smith et al.	
		6600418		2003-07-29	Francis et al.	
		6601016		2003-07-29	Brown, Michael W.	
		6611556		2003-08-26	Koener et al.	
		6614349		2003-09-02	Proctor et al.	
		6615658		2003-09-09	Snelling	
		6617962		2003-09-09	Horwitz et al.	
		6619055		2003-09-16	Addy	
		6624750		2003-09-23	Marman, Douglas et al.	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6628835		2003-09-30	Brill, Frank Z., et al.	
		6639517		2003-10-28	Chapman et al.	
		6665585		2003-12-16	Kawase	
		6666086		2003-12-23	Colman et al.	
		6679400		2004-01-20	Goodman	
		6690657		2004-02-10	Lau, Kam Y., et al.	
		6693907		2004-02-17	Wesley, Joseph S., et al.	
		6700533		2004-03-02	Werb et al.	
		6800533		2004-03-02	Werb	
		6704681		2004-03-09	Nassof et al.	
		6714977		2004-03-30	Fowler et al.	
		6717507		2004-04-06	Bayley, Oliver T., et al.	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6720888		2004-04-13	Eagleson et al.	
		6731215		2004-05-04	Harms et al.	
		6735630		2004-05-11	Gelvin, David C., et al.	
		6737974		2004-05-18	Dickinson	
		6744740		2004-06-01	Chen, Priscilla	
		6745027		2004-06-01	Twitchell et al.	
		6747558		2004-06-08	Thorne et al.	
		6747562		2004-06-08	Giraldin et al.	
		6748804		2004-06-15	Lisec et al.	
		6753775		2004-06-22	Auerbach et al.	
		6759956		2004-07-06	Menard et al.	
		6760578		2004-07-06	Rotzoll	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6761312		2004-07-13	Piatek et al.	
		6765484		2004-07-20	Eagleson et al.	
		20040143750		2004-07-22	Kulack, Frederick et al.	
		6789220		2004-09-07	Lovejoy	
		6789739		2004-09-14	Rosen	
		6796187		2004-09-28	Srinivasan, Regaswamy et al.	
		6798220		2004-09-28	Flanigan et al.	
		6799210		2004-09-28	Gentry, William D., et al.	
		6803728		2004-10-12	Balasubramaniam, Gnanagiri et al.	
		6825777		2004-11-01	Vock et al.	
		6816063		2004-11-09	Kubler et al.	
		6825758		2004-11-30	Laitsaari, Juha M.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6826948		2004-12-07	Bhatti et al.	
		6847892		2005-01-25	Zhou, Peter	
		6851621		2005-02-08	Wacker et al.	
		6870476		2005-03-22	Cockburn et al.	
		6874037		2005-03-29	Abram, Philip M., et al.	
		6882274		2005-04-19	Richardson et al.	
		6891470		2005-05-10	Bohinc, Jerry	
		6891838		2005-05-10	Petite et al.	
		6892751		2005-05-17	Sanders	
		6900731		2005-05-31	Kriener	
		6909921		2005-06-21	Bilger, Brent	
		6919803		2005-07-19	Breed	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		6927688		2005-08-09	Tice	
		6930596		2005-08-16	Kulesz, Jamies J., et al.	
		6934540		2005-08-23	Twitchell et al.	
		6935570		2005-08-30	Acker	
		6940392		2005-09-06	Chan et al.	
		6940403		2005-09-06	Kail	
		6965314		2005-11-15	Bohinc, Jerry	
		6972682		2005-12-06	Lareau et al.	
		6975614		2005-12-13	Kennedy	
		6988079		2006-01-17	Or-Bach, Zvi et al.	
		6995676		2006-02-07	Amacher	
		7012529		2006-03-14	Sajkowsky	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7022773		2006-04-04	Albano, Margherita et al.	
		7027773		2006-04-11	McMillin	
		7034683		2006-04-25	Ghazarian, Ohanes	
		7038585		2006-05-02	Hall	
		7042352		2006-05-09	Kates	
		7055759		2006-06-06	Wacker et al.	
		7063667		2006-06-20	Ben-Oren, Ilan et al.	
		7072668		2006-07-04	Chou	
		7088229		2006-08-08	Johnson	
		7098784		2006-08-29	Easley et al.	
		7102504		2006-09-05	Kates	
		7102505		2006-09-05	Kates	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7103016		2006-09-05	Duffy, Darrell et al.	
		7103344		2006-09-05	Menard, Raymond J.	
		7109879		2006-09-19	Stults et al.	
		7126470		2006-10-24	Cliff et al.	
		7133704		2006-11-07	Twitchell, Robert W.	
		7135965		2006-11-14	Chapman et al.	
		7142107		2006-11-28	Kates	
		7142121		2006-11-28	Chan et al.	
		7142123		2006-11-28	Kates	
		7148800		2006-12-12	Cunningham	
		7148803		2006-12-12	Bandy	
		7155238		2006-12-26	Katz	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7155264		2006-12-26	Twitchell et al.	
		7191934		2007-03-20	Miller et al.	
		7196622		2007-03-27	Lambright	
		7200132		2007-04-03	Twitchell et al.	
		7209037		2007-04-24	Webb	
		7209468		2007-04-24	Twitchell et al.	
		7209771		2007-04-24	Twitchell et al.	
		7212122		2007-05-01	Gloekler	
		7218237		2007-05-15	Kates	
		7221260		2007-05-22	Berezowski, Andrew G.	
		7221668		2007-05-22	Twitchell et al.	
		7228726		2007-06-12	Kates	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7230528		2007-06-12	Kates	
		7230933		2007-06-12	Bahl et al.	
		7233958		2007-06-19	Weng	
		7239238		2007-07-03	Tester et al.	
		7248160		2007-07-24	Mangan, Anthony et al.	
		7253731		2007-08-07	Joao	
		7256505		2007-08-14	Arms, Steven W., et al.	
		7270353		2007-09-18	Sironi et al.	
		7273172		2007-09-25	Olsen	
		7274295		2007-09-25	Koch	
		7277009		2007-10-02	Hall	
		7282944		2007-10-16	Gunn et al.	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7283052		2007-10-16	Bohman	
		7289761		2007-10-30	Mazar, Scott T.	
		7299068		2007-11-20	Halla	
		7313421		2007-12-25	Dejanovic	
		7315281		2008-01-01	Dejanovic	
		7317382		2008-01-08	Pratt	
		7319397		2008-01-15	Chung	
		7323981		2008-01-29	Peel	
		7333015		2008-02-19	Ekstrom	
		7336168		2008-02-26	Kates	
		7339469		2008-03-04	Braun	
		7340260		2008-03-04	McAlexander	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7342496		2008-03-11	Muirhead	
		7342497		2008-03-11	Chung	
		7348875		2008-03-25	Hughes et al.	
		7349803		2008-03-25	Belenkii et al.	
		7349804		2008-03-25	Belenkii	
		7376507		2008-05-20	Daily et al.	
		7378957		2008-05-27	Twitchell et al.	
		7378958		2008-05-27	Twitchell et al.	
		7378959		2008-05-27	Twitchell et al.	
		7378960		2008-05-27	Binding	
		7382251		2008-06-03	Bohman	
		7391321		2008-06-24	Twitchell et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7394358		2008-07-01	Cherry	
		7394361		2008-07-01	Twitchell et al.	
		7394372		2008-07-01	Gloekler	
		7397363		2008-07-08	Joao	
		7411494		2008-08-12	Kates	
		7412876		2008-08-19	Kates	
		7417543		2008-08-26	Bergman	
		7419101		2008-09-02	Kawai	
		7423534		2008-09-09	Dhanjal	
		7423535		2008-09-09	Chung	
		7430437		2008-09-30	Twitchell et al.	
		7434742		2008-10-14	Mueller et al.	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7438334		2008-10-21	Terry et al.	
		7440781		2008-10-21	Beach et al.	
		7460690		2008-12-02	Cohen et al.	
		7469550		2008-12-30	Chapman et al.	
		7482920		2009-01-27	Joao	
		7489244		2009-02-10	August, Jason et al.	
		7515940		2009-04-07	Chen, Ming C., et al.	
		7522568		2009-04-21	Twitchell et al.	
		7526381		2009-04-28	Twitchell	
		7528711		2009-05-05	Kates	
		7528719		2009-05-05	Hopman, Nicholas C., et al.	
		7529547		2009-05-05	Twitchell	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7538656		2009-05-26	Twitchell et al.	
		7538657		2009-05-26	Twitchell et al.	
		7538658		2009-05-26	Twitchell et al.	
		7538672		2009-05-26	Lockyer et al.	
		7539520		2009-05-26	Twitchell et al.	
		7542849		2009-06-02	Twitchell et al.	
		7561057		2009-07-14	Kates	
		7563991		2009-07-21	Clark et al.	
		7571865		2009-08-11	Nicodem et al.	
		7574168		2009-08-11	Twitchell et al.	
		7574300		2009-08-11	Twitchell et al.	
		7579945		2009-08-25	Richter et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7583198		2009-09-01	Kates	
		7583769		2009-09-01	Smith et al.	
		7595727		2009-09-29	Grijalva et al.	
		7600137		2009-10-06	Trappeniers et al.	
		7623028		2009-11-24	Kates	
		7626508		2009-12-01	Kosuge, Roy et al.	
		7703694		2010-04-27	Mueller et al.	
		D614976		2010-05-04	Skafdrup et al.	
		7735118		2010-06-08	Brok et al.	
		7782200		2010-08-24	Fleischmann, Arthur R.	
		7817031		2010-10-19	Kates	
		7837958		2010-11-23	Crapser et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		7904209		2011-03-08	Podgorny et al.	
		7907941		2011-03-15	Twitchell	
		7924735		2011-04-12	Sun et al.	
		7940716		2011-05-10	Twitchell, Robert W.	
		7975292		2011-07-05	Corella	
		7986238		2011-07-06	Cho, Joong-Sam	
		7994928		2011-08-09	Richmond	
		8000315		2011-08-16	Doi et al.	
		8016205		2011-09-13	Drew	
		8037022		2011-10-11	Rahman et al.	
		8098166		2012-01-17	Lang	
		8111651		2012-02-07	Twitchell, Robert W.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		8125978		2012-02-28	Lim et al.	
		8165072		2012-04-24	Mooney, Christopher F., et al.	
		8175109		2012-05-08	Nogueira-Nine et al.	
		8188764		2012-05-29	Weiss et al.	
		8228183		2012-07-24	Glenn, Gregory M., et al.	
		8234694		2012-07-31	Youn et al.	
		8255090		2012-08-28	Frader-Thompson et al.	
		8275404		2012-09-25	Berger et al.	
		8391435		2013-03-05	Farley, Matthew J., et al.	
		8462662		2013-06-11	Robins et al.	
		8514758		2013-08-20	De Kimpe et al.	
		8531268		2013-09-10	Ghabra et al.	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		8589174		2013-11-19	Nelson, Kyle S., et al.	
		8605660		2013-12-10	Twitchell, Robert W.	
		8619652		2013-12-31	Singh et al.	
		8954082		2015-02-10	Twitchell, Robert W.	
		9072049		2015-06-30	Farley, Matthew J., et al.	
		9183733		2015-11-10	Kates	
		9286787		2016-03-15	Kates, Lawrence	
		9286788		2016-03-15	Kates, Lawrence	
		9295099		2016-03-22	Twitchell, Robert W., et al.	
		9318015		2016-04-19	Kates, Lawrence	
		9357490		2016-05-31	Kates, Lawrence	
		9386553		2016-07-05	Berger, Thomas R., et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		9412260		2016-08-09	Kates, Lawrence	
		9445367		2016-09-13	Farley, Matthew J., et al.	
		9474023		2016-10-18	Kates, Lawrence	
		9532310		2016-12-27	Farley, Matthew J., et al.	
		9699736		2017-07-04	Farley, Matthew J., et al.	
		9723559		2017-08-01	Kates, Lawrence	
		9860839		2018-01-02	Kates, Lawrence	
		9872249		2018-01-16	Kates, Lawrence	
		9955423		2018-04-24	Kates, Lawrence	
		6798341		2004-09-28	Eckel et al.	

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant
-------------------	---------	--------------------	------------------------	------------------	---	--

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

						Figures Appear
		20010000019		2001-03-15	Bowers et al.	
		20010050550		2001-12-13	Yoshida et al.	
		20020011923		2002-01-01	Cunningham et al.	
		20020005707		2002-01-17	Kerai et al.	
		20020011570		2002-01-31	Castleman	
		20020012323		2002-01-31	Petite, Thomas D., et al.	
		20020030592		2002-03-14	Hakanen et al.	
		20020030596		2002-03-14	Finn et al.	
		20020033759		2002-03-21	Morello	
		20020039896		2002-04-04	Brown	
		20020050632		2002-05-02	Tuttle et al.	
		20020050932		2002-05-02	Rhoades et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20020073646		2002-06-20	Von Gutfeld, Robert J., et al.	
		20020075145		2002-06-20	Hardman et al.	
		20020084414		2002-07-04	Baker et al.	
		20020089434		2002-07-11	Ghazarian	
		20020098861		2002-07-25	Doney et al.	
		20020099567		2002-07-25	Joao	
		20020102979		2002-08-01	Curley, Joseph et al.	
		20020119770		2002-08-29	Twitchell	
		20020124169		2002-09-05	Agrawal et al.	
		20020126005		2002-09-12	Hardman, Gordon E., et al.	
		20020130771		2002-09-19	Osborne, Corwin K., et al.	
		20020130778		2002-09-19	Nicholson	
		20020146985		2002-10-10	Naden	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20020158775		2002-10-31	Wallace, David A.	
		20020186141		2002-12-12	Jen et al.	
		20030008692		2003-01-09	Phelan	
		20030011428		2003-01-16	Yamakawa et al.	
		20030011474		2003-01-16	Ng, Sing K.	
		20030011482		2003-01-16	Harms et al.	
		20030025612		2003-02-06	Holmes, John K., et al.	
		20030037125		2003-02-20	Luman, David J., et al.	
		20030043763		2003-03-06	Grayson, Paul D.	
		20030051023		2003-03-13	Reichel, Bryan S., et al.	
		20030058093		2003-03-27	Dohi et al.	
		20030083064		2003-05-01	Cooper	
		20030114898		2003-06-19	Von Ark, Jeffrey A., et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20030117966		2003-06-26	Chen, Priscilla	
		20030122677		2003-07-02	Kail, Karl A.	
		20030140135		2003-07-24	Okuyama et al.	
		20030141973		2003-07-31	Yeh et al.	
		20030144020		2003-07-31	Challa et al.	
		20030146833		2003-08-07	Johnston, Derek S., et al.	
		20030151513		2003-08-14	Herrmann, ?Falk et al.	
		20030162504		2003-08-28	Sabongi, Gebran et al.	
		20030167391		2003-09-04	Al-Ali, Ammar	
		20030168443		2003-09-11	Dozier, John W.	
		20030179073		2003-09-25	Ghazarian	
		20030182077		2003-09-25	Emord	
		20030185289		2003-10-02	Colmenarez, Antonio et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20030189491		2003-10-09	Ng	
		20030189948		2003-10-09	Sashihara, Toshiyuki	
		20030199247		2003-10-23	Strierner	
		20030202477		2003-10-30	Zhen et al.	
		20030209601		2003-11-13	Chung	
		20030214400		2003-11-20	Mizutani, Masami et al.	
		20030220075		2003-11-27	Baker, Kenneth R., et al.	
		20030228846		2003-12-11	Berliner et al.	
		20030231001		2003-12-18	Bruning	
		20030236077		2003-12-25	Sivard	
		20040007264		2004-01-15	Bootka	
		20040017291		2004-01-29	Hardman, Gordon E., et al.	
		20040019783		2004-01-29	Hawkes, Philip M.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20040021572		2004-02-05	Schoen et al.	
		20040023629		2004-02-05	Klank, Otto	
		20040025018		2004-02-05	Haas, Zygmunt et al.	
		20040041706		2004-03-04	Stratmoen et al.	
		20040041731		2004-03-04	Hisano	
		20040050429		2004-03-18	Aylward, Peter G.	
		20040062224		2004-04-01	Brownrigg et al.	
		20040066271		2004-04-08	Leck, Michael J.	
		20040082296		2004-04-29	Twitchell	
		20040090329		2004-05-13	Hitt	
		20040090924		2004-05-13	Giaimo, Edward C., et al.	
		20040100379		2004-05-27	Boman et al.	
		20040100394		2004-05-27	Hitt	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20040100415		2004-05-27	Veitch et al.	
		20040102864		2004-05-27	Stack, James et al.	
		20040113772		2004-06-17	Chou, Y H.	
		20040119588		2004-06-24	Marks	
		20040121793		2004-06-24	Weigele et al.	
		20040147267		2004-07-09	Hill, Stephen et al.	
		20040135691		2004-07-15	Duron et al.	
		20040137959		2004-07-15	Salzhauer, Michael A., et al.	
		20040142716		2004-07-22	Orlik, Philip et al.	
		20040150516		2004-08-05	Faetanini, Steven E.	
		20040164238		2004-08-26	Xu et al.	
		20040164855		2004-08-26	Okubo, Youichi	
		20040174259		2004-09-09	Peel	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20040176028		2004-09-09	Dibernardo, Anthony J.	
		20040181693		2004-09-16	Milliot, Frederic et al.	
		20040183673		2004-09-23	Nageli	
		20040193876		2004-09-30	Donley, Christopher J., et al.	
		20040198467		2004-10-07	Orlik, Philip et al.	
		20040205781		2004-10-14	Hill, Richard D., et al.	
		20040215532		2004-10-28	Boman et al.	
		20040217858		2004-11-04	Ingley, Herbert et al.	
		20040219930		2004-11-04	Lin, le-Hong	
		20040222884		2004-11-11	Costa, Hilario et al.	
		20040224631		2004-11-11	Davis, Robert A., et al.	
		20040232924		2004-11-25	Hilleary et al.	
		20040233041		2004-11-25	Bohman et al.	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20040233054		2004-11-25	Neff et al.	
		20040233855		2004-11-25	Gutierrez, Jose A., et al.	
		20040233874		2004-11-25	Baker, Kenneth R.	
		20040236645		2004-11-25	Tien, Chih Y.	
		20040246463		2004-12-09	Milinusic	
		20040246903		2004-12-09	Huang, Jian et al.	
		20040263340		2004-12-30	Pearson, Joseph J., et al.	
		20050012601		2005-01-20	Matsubara et al.	
		20050030175		2005-02-10	Wolfe, Daniel G.	
		20050035877		2005-02-17	Kim	
		20050043068		2005-02-24	Shohara et al.	
		20050043907		2005-02-24	Eckel et al.	
		20050046563		2005-03-03	Whitney	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20050053063		2005-03-10	Madhavan	
		20050062605		2005-03-24	Sutphin, Eldon M.	
		20050071358		2005-03-31	Hind, Hugh et al.	
		20050073406		2005-04-07	Easley et al.	
		20050078672		2005-04-14	Caliskan, Alaattin et al.	
		20050087235		2005-04-28	Skorpik	
		20050088299		2005-04-28	Bandy, William R.	
		20050090211		2005-04-28	Lilja et al.	
		20050093702		2005-05-05	Twitchell	
		20050093703		2005-05-05	Twitchell	
		20050099292		2005-05-12	Sajkowsky, James M.	
		20050105841		2005-05-19	Luo et al.	
		20050111428		2005-05-26	Orlik, Philip et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20050116667		2005-06-02	Mueller et al.	
		20050125083		2005-06-09	Kiko	
		20050128067		2005-06-16	Zakrewski	
		20050128080		2005-06-16	Hall et al.	
		20050129034		2005-06-16	Takeyoshi, Haruyuki et al.	
		20050131652		2005-06-16	Corwin et al.	
		20050145018		2005-07-07	Sabata et al.	
		20050146445		2005-07-07	Sieboda et al.	
		20050152318		2005-07-14	Elbatt, Tamer A., et al.	
		20050154527		2005-07-14	Ulrich, Henry B.	
		20050157659		2005-07-21	Huitema	
		20050164633		2005-07-28	Linjama, Jukka et al.	
		20050174236		2005-08-11	Brookner, George M.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20050187867		2005-08-25	Sokolic et al.	
		20050190759		2005-09-01	Lee, Jai-Ho et al.	
		20050194456		2005-09-08	Tessier et al.	
		20050199716		2005-09-15	Shafer et al.	
		20050200475		2005-09-15	Chen, Shin-Jun	
		20050215280		2005-09-29	Twitchell, Robert W.	
		20050226201		2005-10-13	McMillin	
		20050228991		2005-10-13	Schmit, Thomas	
		20050246408		2005-11-03	Chung	
		20050258974		2005-11-24	Mahowald	
		20050261037		2005-11-24	Raghunath et al.	
		20050262923		2005-12-01	Kates	
		20050270151		2005-12-08	Winick	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20050270160		2005-12-08	Chan et al.	
		20050275527		2005-12-15	Kates	
		20050275528		2005-12-15	Kates	
		20050275529		2005-12-15	Kates	
		20050275530		2005-12-15	Kates	
		20050275547		2005-12-15	Kates	
		20060007008		2006-01-12	Kates	
		20060007863		2006-01-12	Naghian, Siamak	
		20060032379		2006-02-16	Kates	
		20060041680		2006-02-23	Proctor, James A., et al.	
		20060059977		2006-03-23	Kates	
		20060063484		2006-03-23	Proctor, James A., et al.	
		20060068832		2006-03-30	Islam, Khaledul M.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20060098592		2006-05-11	Proctor, James A., et al.	
		20060109106		2006-05-25	Braun	
		20060114102		2006-06-01	Chang et al.	
		20060132485		2006-06-22	Milinusic	
		20060135145		2006-06-22	Redi	
		20060146717		2006-07-06	Conner, W S., et al.	
		20060147003		2006-07-06	Archacki et al.	
		20060158326		2006-07-20	Easley et al.	
		20060163422		2006-07-27	Krikorian et al.	
		20060164232		2006-07-27	Waterhouse et al.	
		20060164239		2006-07-27	Loda	
		20060164257		2006-07-27	Giubbini	
		20060187026		2006-08-24	Kochis	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20060202817		2006-09-14	Mackenzie et al.	
		20060206273		2006-09-14	Reichel, Bryan S., et al.	
		20060208099		2006-09-21	Chapman et al.	
		20060239197		2006-10-26	Lieuallen et al.	
		20060255934		2006-11-16	Easley et al.	
		20060256756		2006-11-16	Wakabayashi, Hideji	
		20060267756		2006-11-30	Kates	
		20060268727		2006-11-30	Rangarajan, Anand et al.	
		20060270382		2006-11-30	Lappetelainen et al.	
		20060273896		2006-12-07	Kates	
		20060276161		2006-12-07	Twitchell et al.	
		20060282546		2006-12-14	Reynolds, Patrick A., et al.	
		20060286988		2006-12-21	Blume, Oliver et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20060287008		2006-12-21	Twitchell et al.	
		20070001854		2007-01-04	Chung, Kevin K., et al.	
		20070002792		2007-01-04	Twitchell et al.	
		20070002793		2007-01-04	Twitchell et al.	
		20070004331		2007-01-04	Twitchell et al.	
		20070008408		2007-01-11	Zehavi	
		20070032951		2007-02-08	Tanenhaus et al.	
		20070038787		2007-02-15	Harris et al.	
		20070040673		2007-02-22	Bohine, Jerry	
		20070041333		2007-02-22	Twitchell et al.	
		20070041345		2007-02-22	Yarvis, Mark D., et al.	
		20070043478		2007-02-22	Ehlers et al.	
		20070043807		2007-02-22	Twitchell et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20070044524		2007-03-01	Coutermarsh et al.	
		20070063833		2007-03-22	Kates	
		20070069885		2007-03-29	Twitchell et al.	
		20070090946		2007-04-26	Kates	
		20070099628		2007-05-03	Twitchell et al.	
		20070099629		2007-05-03	Twitchell et al.	
		20070113882		2007-05-24	Meyers	
		20070114295		2007-05-24	Jenkins	
		20070115114		2007-05-24	Meyers	
		20070115115		2007-05-24	Meyers	
		20070115827		2007-05-24	Boehnke, Ralf et al.	
		20070115859		2007-05-24	Meyers	
		20070115902		2007-05-24	Shamoon et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20070118332		2007-05-24	Meyers	
		20070121557		2007-05-31	Sylvain, Dany	
		20070133980		2007-06-14	Meyers	
		20070135179		2007-06-14	Hardman et al.	
		20070139183		2007-06-21	Kates	
		20070139197		2007-06-21	Hopman, Nicholas C.	
		20070147255		2007-06-28	Oyman, Ozgur	
		20070152815		2007-07-05	Meyers	
		20070155327		2007-07-05	Twitchell et al.	
		20070159999		2007-07-12	Twitchell et al.	
		20070195702		2007-08-23	Yuen et al.	
		20070200765		2007-08-30	Meyers	
		20070211076		2007-09-13	Kates	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20070229237		2007-10-04	Kates	
		20070234784		2007-10-11	Kates	
		20070266575		2007-11-22	Nash	
		20070274232		2007-11-29	Axelsson et al.	
		20070291690		2007-12-20	Twitchell et al.	
		20070291724		2007-12-20	Twitchell et al.	
		20080015742		2008-01-17	Kulyk et al.	
		20080027586		2008-01-31	Hern et al.	
		20080059622		2008-03-06	Hite, Thomas D., et al.	
		20080066658		2008-03-20	Muirhead	
		20080094209		2008-04-28	Braun	
		20080099568		2008-05-01	Nicodem et al.	
		20080111692		2008-05-15	Twitchell et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20080112377		2008-05-15	Twitchell et al.	
		20080112378		2008-05-15	Twitchell et al.	
		20080117040		2008-05-22	Peel	
		20080129458		2008-06-05	Twitchell	
		20080141754		2008-06-19	Kates	
		20080142592		2008-06-19	Twitchell et al.	
		20080143484		2008-06-19	Twitchell et al.	
		20080144554		2008-06-19	Twitchell et al.	
		20080151850		2008-06-26	Twitchell et al.	
		20080165749		2008-07-10	Twitchell et al.	
		20080180252		2008-07-31	Vogt, Harald	
		20080212544		2008-09-04	Twitchell et al.	
		20080221737		2008-09-11	Josephson et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20080228904		2008-09-18	Crespo-Dubi, Daniel et al.	
		20080234878		2008-09-25	Joao	
		20080264888		2008-10-30	Zakula et al.	
		20080278310		2008-11-13	Kates	
		20080278315		2008-11-13	Kates	
		20080278316		2008-11-13	Kates	
		20080278342		2008-11-13	Kates	
		20080284590		2008-11-20	Kates	
		20080291844		2008-11-27	Krause	
		20080302172		2008-12-11	Kates	
		20080303654		2008-12-11	Kates	
		20080303897		2008-12-11	Twitchell et al.	
		20080304443		2008-12-11	Twitchell	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20080315596		2008-12-25	Terry et al.	
		20090016308		2009-01-15	Twitchell, Robert	
		20090057427		2009-03-05	Geadelmann et al.	
		20090092082		2009-04-09	Twitchell et al.	
		20090103462		2009-04-23	Twitchell et al.	
		20090104902		2009-04-23	Twitchell et al.	
		20090122737		2009-05-14	Twitchell et al.	
		20090129306		2009-05-21	Twitchell et al.	
		20090135000		2009-05-28	Twitchell et al.	
		20090143918		2009-06-04	Amundson et al.	
		20090146805		2009-06-11	Joao	
		20090153336		2009-06-18	Kates	
		20090161642		2009-06-25	Twitchell et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20090181623		2009-07-16	Twitchell et al.	
		20090194601		2009-08-06	Flohr	
		20090290512		2009-11-26	Twitchell	
		20090295564		2009-12-03	Twitchell	
		20090322510		2009-12-31	Berger et al.	
		20100013635		2010-01-21	Berger et al.	
		20100058450		2010-03-04	Fein et al.	
		20100067420		2010-03-18	Twitchell, Robert	
		20100097969		2010-04-22	De Kimpe, Wim et al.	
		20100141449		2010-06-10	Twitchell, Robert W.	
		20100145865		2010-06-10	Berger et al.	
		20100150122		2010-06-17	Berger et al.	
		20100156608		2010-06-24	Bae et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20100163633		2010-07-01	Barrett et al.	
		20100166113		2010-07-01	Farley et al.	
		20100168924		2010-07-01	Tessier et al.	
		20100199086		2010-08-05	Kuang et al.	
		20100214060		2010-08-26	Twitchell	
		20100214074		2010-08-26	Twitchell, Robert	
		20100214969		2010-08-26	Lamm, Anders et al.	
		20100238036		2010-09-23	Holcombe	
		20110001812		2011-01-06	Kang et al.	
		20110025501		2011-02-03	Kates	
		20110078675		2011-03-31	Van Camp et al.	
		20110119747		2011-05-19	Lambiase	
		20110138044		2011-06-09	Bailey et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20110151837		2011-06-23	Winbush	
		20110176465		2011-07-21	Panta et al.	
		20110282937		2011-11-17	Deshpande et al.	
		20110289320		2011-11-24	Twitchell et al.	
		20120077434		2012-03-29	Royston et al.	
		20120163422		2012-06-28	Lee et al.	
		20120190390		2012-07-26	Reunamaki et al.	
		20120250619		2012-10-04	Twitchell, Robert W.	
		20130016636		2013-01-17	Berger, Thomas R., et al.	
		20130070657		2013-03-21	Farley, Matthew J., et al.	
		20130223420		2013-08-29	Twitchell et al.	
		20140203943		2014-07-24	Kates	
		20140285336		2014-08-25	Kates, Lawrence	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20140308963		2014-10-16	Twitchell et al.	
		20140333423		2014-11-13	Kates, Lawrence	
		20140333434		2014-11-13	Kates, Lawrence	
		20150061892		2015-03-05	Kates, Lawrence	
		20150070192		2015-03-12	Kates, Lawrence	
		20150061868		2015-03-15	Kates, Lawrence	
		20150103747		2015-04-16	Twitchell, Robert W.	
		20150172887		2015-06-18	Petite, Thomas D.	
		20160029315		2016-01-28	Kates, Lawrence	
		20160044597		2016-02-11	Farley, Matthew J., et al.	
		20160219523		2016-07-28	Twitchell, Robert et al.	
		20160247382		2016-08-25	Kates, Lawrence	
		20160267761		2016-09-15	Kates, Lawrence	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20160286490		2016-09-29	Kates, Lawrence	
		20160300183		2016-10-13	Berger, Thomas R., et al.	
		20170041876		2017-02-09	Farley, Matthew J., et al.	
		20170048798		2017-02-16	Twitchell, Robert W., et al.	
		20170245215		2017-08-24	Twitchell, Christopher T.	
		20170257826		2017-09-07	Kates, Lawrence	
		20180098283		2018-04-05	Kates, Lawrence	
		20180110006		2018-04-19	Kates, Lawrence	
		20180115951		2018-04-26	Kates, Lawrence	

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	K i n d C o d e ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant	T ⁵
-------------------	---------	--------------------------------------	---------------------------	---	------------------	---	---	----------------

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

						Figures Appear	
		231458	GB	1926-01-21	Benzonafene		
		0070449	EP	1983-01-26	Oberstein, Karla		
		0093463	EP	1983-11-09	Givaty, Michael		
		3415786	DE	1984-11-29	Yamada, Kioshi et al.		
		0346152	EP	1989-12-13	Cairney, James		
		0346152A3	EP	1990-10-03	Cairney, James		
		0467036	EP	1992-01-22	Reis, Robert S., et al.		
		0601820	EP	1994-06-15	Yamada, Daisuke et al.		
		2278471	GB	1994-11-30	Pollock, Martin R.		
		0748083	EP	1996-12-11	Welles, Kenneth B., et al.		
		0748085	EP	1996-12-11	Welles, Kenneth B., et al.		
		0580298	EP	1997-01-26	Wheaton		
		2308947	GB	1997-07-09	Howell, Simon K., et al.		
		9298780	JP	1997-11-18	Fujita, Yuzo		
		9810393	WO	1998-03-12	Canada, Ronald G., et al.		
		0829995	EP	1998-03-18	Riemann, Ernst B., et al.		
		10258189	JP	1998-09-29	Mattinger, Detlef		
		0930492	EP	1999-07-21	Jensen et al.		

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		0441999	EP		1999-08-21	Mannhart, Christian et al.	
		0944014	EP		1999-09-22	Johnson, David A.	
		0021047	WO		2000-04-13	Rutter, Nicholas et al.	
		2388660	CN		2000-07-19	Wenfing, Li	
		0055825	WO		2000-09-21	Petite, Thomas	
		0068907	WO		2000-11-16	Werg, Jay et al.	
		0069186	WO		2000-11-16	Smolentzov, Andre et al.	
		03009631	WO		2003-01-30	Kyohei, Imai	
		2003098175	WO		2003-11-27	Petersen, Michael et al.	
		2004010398	WO		2004-01-29	Kulesz, Jamies J., et al.	
		20040012311	KR		2004-02-11	Cho, Tae G.	
		2004073326	WO		2004-08-26	Tompa, Gary S., et al.	
		2004100763	WO		2004-11-25	Collette et al.	
		2005010837	WO		2005-02-03	Vokey, David E., et al.	
		100509070	KR		2005-08-18	Hong, Jong C., et al.	
		20050102419	KR		2005-10-26	Roh, Young H., et al.	
		2006056174	WO		2006-06-01	Goepfner, Matthias et al.	
		100587735	KR		2006-06-09	Choi, Yong K., et al.	
		1692668	EP		2006-08-23	Lambright, Stephen J., et al.	
		20070005515	KR		2007-01-10	Mo, Chung C., et al.	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		20080001235	KR		2008-01-03	Kim, Hyun C., et al.	
		2008054938	WO		2008- 05-08	Stevens, Martin J.	
		2009140669	WO		2009-11-19	Berger, Thomas et al.	
		2009151877	WO		2009-12-17	Robins, David S., et al.	
		1317733	EP		2010-04-14	Anderson, Arthur E., et al.	
		1692599	EP		2013-07-17	Chai, Zong H., et al.	

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials"	Cite No	Include name of the author (in CAPITAL LETTERS), 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.	T ⁹
		"Advisory Action", Application Number 13/555,897, 2014-11-06, 3 pages	
		"Advisory Action", Application Number 14/168,876, 2015-06-10, 3 pages	
		"Advisory Action", Application Number 14/536,108, 2015-09-03, 4 pages	
		"Advisory Action", Application Number 12/353,197, 2012-07-16, 5 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Application Note Published by Texas Instruments for CC1100/CC2500 Products", Accessed on 12/19/2008, 17 pages	
		"Best Way to Contra/Indoor Molds, Dust Mites, and other Microorganisms: Measuring and Controlling Indoor Humidity [Brochure]", INDOOR HEALTH PRODUCTS, INC. (2001-2002). Layton, Utah: Indoor Health Products, Inc. Retrieved from the Internet: <URL: http://www.relativehumidity-sensor.com > on June 18, 2004, 3 pages	
		"Final Office Action", Application Number 10/856,395, 2006-10-30, 10 pages	
		"Final Office Action", Application Number 14/168,876, 2015-03-18, 10 pages	
		"Final Office Action", Application Number 14/534,848, 2017-01-26, 10 pages	
		"Final Office Action", Application Number 15/590,880, 2/8/18, 11 pages	
		"Final Office Action", Application Number 14/339,234, 2015-08-20, 12 pages	
		"Final Office Action", Application Number 15/161,880, 2016-12-20, 12 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Final Office Action", Application Number 14/548,137, 2015-09-01, 13 pages	
		"Final Office Action", Application Number 14/534,848, 2015-11-23, 13 pages	
		"Final Office Action", Application Number 15/052,172, 2017-02-09, 13 pages	
		"Final Office Action", Application Number 15/161,880, 2017-03-20, 13 pages	
		"Final Office Action", Application Number 11/562,352, 2008-08-21, 14 pages	
		"Final Office Action", Application Number 13/555,897, 2014-08-29, 14 pages	
		"Final Office Action", Application Number 15/090,973, 2016-11-10, 14 pages	
		"Final Office Action", Application Number 12/353,197, 2012-03-23, 15 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Final Office Action", Application Number 14/536,108, 2016-06-13, 16 pages	
		"Final Office Action", Application Number 13/367,341, 2013-02-26, 17 pages	
		"Final Office Action", Application Number 14/298,371, 2015-03-06, 17 pages	
		"Final Office Action", Application Number 14/536,108, 2015-05-26, 18 pages	
		"Final Office Action", Application Number 14/536,108, 11/29/17, 20 pages	
		"Final Office Action", Application Number 14/338,592, 2015-05-29, 22 pages	
		"Final Office Action", Application Number 14/573,625, 2016-12-14, 29 pages	
		"Final Office Action", Application Number 11/314,807, 2007-07-16, 5 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Final Office Action", Application Number 11/314,807, 2008-04-01, 5 pages	
		"Final Office Action", Application Number 12/036,915, 2009-07-08, 5 pages	
		"Final Office Action", Application Number 10/856,395, 2006-04-13, 8 pages	
		"First Action Interview Office Action", Application Number 14/338,592, 2015-03-24, 4 pages	
		"First Action Interview Office Action", Application Number 14/339,234, 2015-03-24, 8 pages	
		"First Action Interview Pre-Interview Communication", Application Number 15/194,148, 07/17/17, 4 pages	
		"First Alert - User's Manual Smoke and Fire Alarm: Battery Powered Photoelectric Smoke Alarm with Silence and Escape Light: Model SA720 [Brochure]", Mexico: First Alert, 2007-01-01, 6 pages	
		"G-Cap 2 Relative Humidity Sensor [Brochure]", GE GENERAL EASTERN INSTRUMENTS - GlobalSpec.com - Retrieved from the Internet: <URL: http://www.globalspec.com/FeaturedProducts/Detail?ExhibitID=1454 > on 06/18/2004, 2 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Impedance Moisture Sensor Technology [Brochure].", MICHELL INSTRUMENTS L TO. Retrieved from the Internet: <URL: http://www.sensorland.com/HowPage029.html > on June 18, 2004, 2 pages	
		"International Preliminary Report on Patentability", Application No. PCT/US2006/026158, 2008-01-17, 9 pages	
		"International Search Report and Written Opinion", Application No. PCT/US2009/044277, 2010-01-27, 13 pages	
		"International Search Report and Written Opinion", Application No. PCT/US2009/044276, 2010-01-11, 7 pages	
		"Mechanical Data Sheet: PT(S-PQFP-G48) Plastic Quad Flatpack, [Brochure].", TEXAS INSTRUMENTS, INC. (1996). Dallas, Texas: Texas Instruments, Inc., 1996-01-01, 2 pages	
		"Non-Final Office Action", Application Number 15/601,705, 06/16/17, 7 pages	
		"Non-Final Office Action", Application Number 12/647,672, 10 pages	
		"Non-Final Office Action", Application Number 11/216,225, 2008-03-04, 10 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Non-Final Office Action", Application Number 11/428,536, 2009-12-24, 10 pages	
		"Non-Final Office Action", Application Number 15/090,973, 2016-06-15, 10 pages	
		"Non-Final Office Action", Application Number 15/161,880, 2016-07-12, 10 pages	
		"Non-Final Office Action", Application Number 12/353,197, 2011-10-06, 11 pages	
		"Non-Final Office Action", Application Number 13/555,897, 2013-12-17, 11 pages	
		"Non-Final Office Action", Application Number 14/534,848, 2017-06-13, 11 pages	
		"Non-Final Office Action", Application Number 15/590,880, 08/11/17, 12 pages	
		"Non-Final Office Action", Application Number 14/338,592, 2015-03-02, 12 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Non-Final Office Action", Application Number 14/534,848, 2016-08-11, 12 pages	
		"Non-Final Office Action", Application Number 12/271,850, 2011-05-11, 13 pages	
		"Non-Final Office Action", Application Number 15/052,172, 2016-07-19, 13 pages	
		"Non-Final Office Action", Application Number 10/948,628, 2006-09-08, 14 pages	
		"Non-Final Office Action", Application Number 11/761,760, 2008-01-16, 15 pages	
		"Non-Final Office Action", Application Number 14/536,108, 2015-12-03, 17 pages	
		"Non-Final Office Action", Application Number 14/536,108, 2017-05-04, 17 pages	
		"Non-Final Office Action", Application Number 14/536,108, 2/22/18, 18 pages	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Non-Final Office Action", Application Number 14/534,848, 2015-06-01, 19 pages	
		"Non-Final Office Action", Application Number 13/367,341, 2012-07-24, 20 pages	
		"Non-Final Office Action", Application Number 12/905,248, 2013-08-30, 20 pages	
		"Non-Final Office Action", Application Number 14/573,625, 2016-05-05, 38 pages	
		"Non-Final Office Action", Application Number 15/194,148, 12/07/17, 4 pages	
		"Non-Final Office Action", Application Number 10/856,231, 2006-04-05, 4 pages	
		"Non-Final Office Action", Application Number 11/145,880, 2006-04-27, 4 pages	
		"Non-Final Office Action", Application Number 11/145,880, 2007-03-01, 4 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Non-Final Office Action", Application Number 14/573,625, 09/21/17, 5 pages	
		"Non-Final Office Action", Application Number 11/314,807, 2007-01-18, 5 pages	
		"Non-Final Office Action", Application Number 11/562,313, 2007-09-05, 5 pages	
		"Non-Final Office Action", Application Number 11/562,352, 2008-01-14, 5 pages	
		"Non-Final Office Action", Application Number 11/748,388, 2008-12-17, 5 pages	
		"Non-Final Office Action", Application Number 10/856,395, 2005-10-03, 6 pages	
		"Non-Final Office Action", Application Number 11/216,225, 2008-07-10, 6 pages	
		"Non-Final Office Action", Application Number 12/036,915, 2008-10-08, 6 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Non-Final Office Action", Application Number 14/875,488, 2015-12-18, 6 pages	
		"Non-Final Office Action", Application Number 10/856,717, 2005-12-14, 7 pages	
		"Non-Final Office Action", Application Number 10/856,717, 2006-05-31, 7 pages	
		"Non-Final Office Action", Application Number 11/494,988, 2009-03-05, 7 pages	
		"Non-Final Office Action", Application Number 12/182,079, 2010-02-26, 7 pages	
		"Non-Final Office Action", Application Number 10/856,390, 2005-12-15, 8 pages	
		"Non-Final Office Action", Application Number 10/856,231, 2005-12-21, 8 pages	
		"Non-Final Office Action", Application Number 11/231,321, 2006-07-24, 8 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Non-Final Office Action", Application Number 12/468,047, 2011-12-13, 8 pages	
		"Non-Final Office Action", Application Number 10/856,387, 2005-12-14, 9 pages	
		"Non-Final Office Action", Application Number 11/233,931, 2006-07-10, 9 pages	
		"Non-Final Office Action", Application Number 14/298,371, 2014-09-09, 9 pages	
		"Non-Final Office Action", Application Number 14/168,876, 2014-09-15, 9 pages	
		"Non-Final Office Action", Application Number 14/168,876, 2014-09-15, 9 pages	
		"Notice of Allowance", Application Number 14/100,357, 2014-09-15, 10 pages	
		"Notice of Allowance", Application Number 11/748,388, 2009-05-19, 12 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Notice of Allowance", Application Number 12/647,672, 2012-11-01, 12 pages	
		"Notice of Allowance", Application Number 14/534,848, 1/24/18, 16 pages	
		"Notice of Allowance", Application Number 10/948,628, 2007-05-03, 2 pages	
		"Notice of Allowance", Application Number 10/856,231, 2006-06-28, 4 pages	
		"Notice of Allowance", Application Number 11/231,321, 2007-03-21, 4 pages	
		"Notice of Allowance", Application Number 11/145,880, 2007-09-21, 4 pages	
		"Notice of Allowance", Application Number 11/314,807, 2008-12-24, 4 pages	
		"Notice of Allowance", Application Number 15/161,880, 09/08/17, 5 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Notice of Allowance", Application Number 15/601,705, 10/05/17, 5 pages	
		"Notice of Allowance", Application Number 13/555,897, 2015-06-08, 5 pages	
		"Notice of Allowance", Application Number 14/298,371, 2015-07-02, 5 pages	
		"Notice of Allowance", Application Number 14/548,137, 2015-12-10, 5 pages	
		"Notice of Allowance", Application Number 13/555,897, 2015-12-17, 5 pages	
		"Notice of Allowance", Application Number 14/168,876, 2016-02-12, 5 pages	
		"Notice of Allowance", Application Number 14/875,488, 2016-04-08, 5 pages	
		"Notice of Allowance", Application Number 15/090,973, 2017-03-16, 5 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Notice of Allowance", Application Number 10/856,387, 2006-06-23, 6 pages	
		"Notice of Allowance", Application Number 10/856,717, 2007-03-13, 6 pages	
		"Notice of Allowance", Application Number 10/948,628, 2007-04-09, 6 pages	
		"Notice of Allowance", Application Number 11/145,880, 2007-07-05, 6 pages	
		"Notice of Allowance", Application Number 11/562,313, 2008-05-23, 6 pages	
		"Notice of Allowance", Application Number 11/761,760, 2008-07-01, 6 pages	
		"Notice of Allowance", Application Number 11/494,988, 2009-07-17, 6 pages	
		"Notice of Allowance", Application Number 12/182,079, 2010-06-23, 6 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Notice of Allowance", Application Number 11/428,536, 2011-02-08, 6 pages	
		"Notice of Allowance", Application Number 10/856,170, 2005-12-13, 7 pages	
		"Notice of Allowance", Application Number 10/856,390, 2006-06-27, 7 pages	
		"Notice of Allowance", Application Number 13/620,171, 2014-02-18, 7 pages	
		"Notice of Allowance", Application Number 14/573,625, 2017-03-28, 7 pages	
		"Notice of Allowance", Application Number 15/841,127, 2/26/18, 8 pages	
		"Notice of Allowance", Application Number 11/233,931, 2006-08-10, 8 pages	
		"Notice of Allowance", Application Number 11/216,225, 2009-03-10, 8 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Notice of Allowance", Application Number 12/271,850, 2011-10-06, 8 pages	
		"Notice of Allowance", Application Number 13/619,681, 2015-03-03, 8 pages	
		"Notice of Allowance", Application Number 14/754,115, 2015-12-24, 8 pages	
		"Notice of Allowance", Application Number 14/754,115, 2016-05-04, 8 pages	
		"Notice of Allowance", Application Number 15/179,350, 2016-08-15, 8 pages	
		"Notice of Allowance", Application Number 14/754,115, 2016-09-20, 8 pages	
		"Notice of Allowance", Application Number 15/248,576, 2017-03-15, 8 pages	
		"Notice of Allowance", Application Number 11/428,536, 2010-07-23, 9 pages	

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Notice of Allowance", Application Number 12/468,047, 2012-05-31, 9 pages	
		"Notice of Allowance", Application Number 13/367,341, 2013-08-05, 9 pages	
		"Notice of Allowance", Application Number 14/339,234, 2015-10-27, 9 pages	
		" Pre-Interview First Office Action", Application Number 14/338,592, 2014-10-31, 4 pages	
		" Pre-Interview First Office Action", Application Number 14/339,234, 2014-11-19, 5 pages	
		"Pre-Interview First Office Action", Application Number 15/841,092, 2/9/18, 4 pages	
		"Relative Humidity Information [Brochure]", INDOOR HEALTH PRODUCTS, INC. (2002) Layton, Utah: Indoor Health Products, Inc. Retrieved from the Internet: <URL: http://www.relativehumidity-sensor.com/relative-humidity.html > on June 18, 2004, 6 pages	
		"Response to the Department of Homeland Security and Border Protection Conveyance Security Device Requirements, Version 1.2", TeraHop Networks, Inc, 2007-12-10, 62 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"Restriction Requirement", Application Number 11/562,313, 2008-02-22, 5 pages	
		"Restriction Requirement", Application Number 12/468,047, 2011-10-05, 5 pages	
		"Restriction Requirement", Application Number 10/948,628, 2005-12-30, 6 pages	
		"Restriction Requirement", Application Number 11/761,760, 2007-10-11, 6 pages	
		"Restriction Requirement", Application Number 10/948,628, 2006-04-20, 7 pages	
		"Restriction Requirement", Application Number 12/193,641, 2009-04-03, 7 pages	
		"Supplemental Notice of Allowance", Application Number 11/145,880, 2007-12-10, 2 pages	
		"TeraHop Networks - Tradeshow Handouts", MERIT-2030-2040 Gateway Controllers; MERIT-300 Incident Node; MERIT-TL TeraLink System Software, 2006-01-01, 6 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		"TeraHop Networks Atlanta Airport Fire-Recuse Project Description of Project Components", TeraHop Networks, 2008-02-07, 11 pages	
		"TeraHop Networks- Documents A Through I, Including Brief Description", 121 pages	
		"TRF6901 Single-Chip RF Transceiver Product Catalog [Brochure].", TEXAS INSTRUMENTS, INC. (2001-2003). Dallas, Texas: Texas Instruments, Inc., 27 pages	
		"Waterbug: Electronic water detection at its best! [Brochure].", WINLAND ELECTRONICS, INC. (2011). Mankato, Minnesota: Winland Electronics Inc. Retrieved from the Internet: <URL:www.winland.com>, 2011-01-01, 1 page	
		"Ways to Prevent Mold Problems [Brochure].", TOXIC BLACK MOLD INFORMATION CENTER. (2002). Layton, Utah: Toxic Black Mold Information Center. Retrieved from the Internet: <URL: http://www.toxic-black-mold-info.com/prevent.html> on June 18, 2004, 12 pages	
		"Website Page Detailing Features of Texas Instruments' Chipcon Products", Accessed on 12/19/2008, 1 page	
		"Written Opinion", Application No. PCT/US06/00868, 2007-04-02, 3 pages	
		"Written Opinion", Application No. PCT/US2006/026158, 2006-11-21, 7 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		BOURKE, TONY, "Server Load Balancing", Sebastopol, California: O'Reilly Associates, 2001-01-01, 182 pages	
		EASLEY, LINDA et al., "Global Container Security System", U.S. Provisional Application Number 60/499,338 - filed 09/03/2003, 27 pages	
		GARCIA-LUNA-ACEVES, J J. , "Source-Tree Routing in Wireless Networks", Proceedings of Seventh International Conference on Network Protocols, 10 pages	
		GIRA, , "Gira Dua/NdS smoke alarm: Double safety by measuring heat and scattered light. [Brochure]", Radevormwald, Germany: GIRA. Retrieved from the Internet: <URL: http://www.gira.de/gebaeudetechnikprodukte/sicherheit/rauchmelder/rauchwarnmelderdualdvs.html > on April 18, 2013,, 7 pages	
		GIRA, , "Gira Dua/VdS smoke alarm: Double safety by measuring heat and scattered light [Brochure]", Radevormwald, Germany: GIRA. Retrieved from the Internet: <URL: http://www.gira.de/gebaeudetechnikprodukte/sicherheit/rauchmelder/rauchwarnmelderdualdvs.html > on April 18, 2013,, 14 pages	
		GIRA, , "Installation and user manual: Smoke alarm device Dua/VdS [Brochure]", Radevormwald, Germany: GIRA. Retrieved from the Internet: <URL: http://download.gira.de/data2/2330121_O.pdf > on April18, 2013., 20 pages	
		GU, DANIEL L. et al., "C-ICAMA, A Centralized Intelligent Channel Assigned Multiple Access for Multi-Layer Ad-Hoc Wireless Networks with UAVs", Conference: Wireless Communications and Networking Conference, 2000, pp. 879-884	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		GU, DANIEL L., "Hierarchical Routing for Multi-Layer Ad-Hoc Wireless Networks with UAVs", 21st Century Military Communications Conference Proceedings, 5 pages	
		HAARTSEN, JAAP, "Bluetooth - The Universal Radio Interface for Ad Hoc, Wireless Connectivity", Ericsson Review No.3, 8 pages	
		HAARTSEN, JAAP, "Bluetooth: Vision, Goals, and Architecture", Mobile Computing & Communications Review, vol. 1, No.2, 8 pages	
		HUBAUX, JEAN-PIERRE et al., "Toward Self-Organized Mobile Ad Hoc Networks: The Terminodes Project", IEEE Communications Magazine (Volume: 39, Issue: 1, Jan 2001), 7 pages	
		IWATA, ATSUSHI et al., "Scalable Routing Strategies for Ad hoc Wireless Networks", IEEE Journal on Selected Areas in Communications, 26 pages	
		KESHAVARZIAN, , "Energy-Efficient Link Assessment in Wireless Sensor Networks", Conference on the IEEE computer and Communications Societies, Volume 3, 14 pages	
		KIDDE, , "Battery Operated Smoke Alarm with Hush: Model i9060 [Brochure].", Mebane, North Carolina: Kidde, 2009-01-01, 2 pages	
		LEE, SUNG-JU, "On-Demand Multicast Routing Protocol (ODMRP) for Ad Hoc Networks", Retrieved at: https://tools.ietf.org/html/draft-ietf-manet-odmrp-02 , 29 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		MELODIA, TOMMASO et al., "On the Interdependence of Distributed Topology Control and Geographical Routing in Ad Hoc and Sensor Networks", IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS, VOL. 23, NO. 3, pp 520-532	
		MINGLIANG, JIANG et al., "Cluster Based Routing Protocol (CBRP)", Internet-Draft, National University of Singapore, 27 pages	
		MORGAN, GARY , "Miniature Tags Provide Visibility & Cohesion for an LIA Battalion Level 'Proof of Principle'", Pacific NW National Laboratory, 11 pages	
		NAGELI, , "Portable Detachable Self-Contained Tracking Unit for Two-Way Satellite Communication with a Central Server", U.S. Provisional Application Number 60/444,029 - Filed 01/31/2003, 38 pages	
		PEI, GUANGYU et al., "A Wireless Hierarchical Routing Protocol with Group Mobility", Wireless Communications and Networking Conference, 1999-01-21 , 18 pages	
		PEI, GUANGYU et al., "Mobility Management in Hierarchical Multi-Hop Mobile Wireless Networks", Eight International Conference on Computer Communications and Networks Proceedings., 6 pages	
		PERKINS, C E. , "Mobile Ad Hoc Networking Terminology", draft-ietf-manet-term-01.txt - Internet Draft, 1998-11-17 , 10 pages	
		PERKINS, CHARLES E. , "AD HOC NETWORKS", Table of Contents, Chapters 1, 4, and 11, 112 pages	

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		RAMANATHAN, RAM et al., "Hierarchically-Organized, Multihop Mobile Wireless Networks for Quality-of-Service Support", Mobile Networks and Applications, 36 pages	
		SHARP, KEVIN, "Physical Reality: A Second Look, Supply Chain Systems", http://www.idsystems.com/reader/1999_03/phys0399_pt2/index.htm , 5 pages	
		SOMMER, BEN, "Group 4, Passive RF Tags", 4 pages	
		STOJMENOVIC, IVAN et al., "Design Guidelines for Routing Protocols in Ad Hoc and Sensor Networks with a Realistic Physical Layer", IEEE Communications Magazine (Volume: 43, Issue: 3, March 2005), 6 pages	
		VALDEVIT, EVIO, "Cascading in Fibre Channel: how to build a multi-switch fabric", Brocade Communications Systems, available at http://www.brocade.com/SAN/white_papers/pdf/Cascading.pdf , 1999-01-01, 13 pages	
		WHITE, et al., "A Conceptual Model for Simulation Load Balancing", Proc. 1998 Spring Simulation Interoperability Workshop, 1998-01-01, 7 pages	
		WOO, ALEC et al., "Taming the Underlying Challenges of Reliable Multihop Routing in Sensor Networks", Proceedings of the 1st international conference on Embedded networked sensor systems, SenSys 2003, 11/05/03, 14 pages	
EXAMINER SIGNATURE			

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

Examiner Signature	/OJIAKO K NWUGO/	Date Considered	09/14/2018
<p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>			
<p>¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.</p>			

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the 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 the information disclosure statement. See 37 CFR 1.97(e) (1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e) (2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Matthew Johnson/	Date (YYYY-MM-DD)	2018-05-13
Name/Print	Matthew Johnson	Registration Number	72,299

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

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

Receipt date: 05/18/2018

15/978,147 - GAU: 2685

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15978147
	Filing Date	2018-05-13
	First Named Inventor	Kates
	Art Unit	2685
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

U.S.PATENTS							Remove	
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear		
	1							
If you wish to add additional U.S. Patent citation information please click the Add button.							Add	
U.S.PATENT APPLICATION PUBLICATIONS							Remove	
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear		
	1							
If you wish to add additional U.S. Published Application citation information please click the Add button.							Add	
FOREIGN PATENT DOCUMENTS							Remove	
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² ¹	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							
If you wish to add additional Foreign Patent Document citation information please click the Add button								Add
NON-PATENT LITERATURE DOCUMENTS								Remove
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.						T ⁵

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15978147
Filing Date	2018-05-13
First Named Inventor	Kates
Art Unit	2685
Examiner Name	Unassigned
Attorney Docket Number	563800USCON19

1	Pursuant to MPEP § 2001.6(b) the applicant brings the following co-pending application to the Examiner's attention: 15/978,145.
2	Pursuant to MPEP § 2001.6(b) the applicant brings the following co-pending application to the Examiner's attention: 15/978,149.

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE			
Examiner Signature	/OJIAKO K NWUGO/	Date Considered	09/14/2018

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15978147
	Filing Date	2018-05-13
	First Named Inventor	Kates
	Art Unit	2685
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the 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 the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Matthew Johnson/	Date (YYYY-MM-DD)	2018-05-18
Name/Print	Matthew Johnson	Registration Number	72,299

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 the Freedom of Information Act requires disclosure of these records.
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 inspections 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.



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

BIB DATA SHEET

CONFIRMATION NO. 1307

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
15/978,147	05/13/2018	340	2685	563800USCON19		
RULE						
APPLICANTS Google LLC, Mountain View, CA; INVENTORS Lawrence Kates, Corona Del Mar, CA; ** CONTINUING DATA ***** This application is a CON of 15/841,127 12/13/2017 PAT 10015743 which is a CON of 15/601,705 05/22/2017 PAT 9872249 which is a CON of 15/090,973 04/05/2016 PAT 9723559 which is a CON of 14/548,137 11/19/2014 PAT 9318015 which is a CON of 14/168,876 01/30/2014 PAT 9357490 which is a CON of 12/905,248 10/15/2010 ABN which is a CON of 12/182,079 07/29/2008 PAT 7817031 which is a DIV of 11/562,313 11/21/2006 PAT 7411494 which is a CON of 10/856,231 05/27/2004 PAT 7142107 ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 06/05/2018						
Foreign Priority claimed <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No 35 USC 119(a-d) conditions met <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Verified and Acknowledged <u>/OJIAKO K NWUGO/</u> Examiner's Signature		<input type="checkbox"/> Met after Allowance OKN Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 7	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 3
ADDRESS Colby Nipper / Google 291 East Shore Drive Suite 200 Eagle, ID 83616 UNITED STATES						
TITLE Relaying Communications in a Wireless Sensor System						
FILING FEE RECEIVED 1720	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit		

Receipt date: 08/21/2018

15/978,147 - GAU: 2685

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15978147
	Filing Date	2018-05-13
	First Named Inventor	Kates
	Art Unit	2685
	Examiner Name	Ojiako K. Nwugo
	Attorney Docket Number	563800USCON19

U.S.PATENTS							Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
	1	5457680		1995-10-10	KAMM, et al.		
	2	6685104		2004-02-03	FLOAT, et al.		
	3	7026929		2006-04-11	WALLACE		
	4	10015743		2018-07-03	KATES		
If you wish to add additional U.S. Patent citation information please click the Add button.							Add
U.S.PATENT APPLICATION PUBLICATIONS							Remove
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
	1	20030005144		2003-01-02	ENGEL, et al.		
	2	20030174056		2003-09-18	HARSHAW		

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15978147
Filing Date	2018-05-13
First Named Inventor	Kates
Art Unit	2685
Examiner Name	Ojiako K. Nwugo
Attorney Docket Number	563800USCON19

3	20030235175	2003-12-25	NAGHIAN, et al.
4	20040075566	2004-04-22	STEPANIK, et al.
5	20040239268	2004-12-02	GRUBBA, et al.
6	20100109866	2010-05-06	GAVRILA, et al.

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² i	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							

If you wish to add additional Foreign Patent Document citation information please click the Add button.

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	"Non-Final Office Action", Application Number 15/821,213, 5/18/18, 8 pages	
	2	"Non-Final Office Action", Application Number 15/841,092, 7/23/18, 10 pages	

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15978147
Filing Date	2018-05-13
First Named Inventor	Kates
Art Unit	2685
Examiner Name	Ojiako K. Nwugo
Attorney Docket Number	563800USCON19

3	"Pre-Interview Communication", Application Number 15/978,149, 7/3/18, 4 pages
4	"Pre-Interview Office Action", Application Number 15/978,145, 07/06/18, 4 pages

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/OJIAKO K NWUGO/	Date Considered	09/14/2018
--------------------	------------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15978147
	Filing Date	2018-05-13
	First Named Inventor	Kates
	Art Unit	2685
	Examiner Name	Ojiako K. Nwugo
	Attorney Docket Number	563800USCON19

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the 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 the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Matthew Johnson/	Date (YYYY-MM-DD)	2018-08-21
Name/Print	Matthew Johnson	Registration Number	72,299

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 the Freedom of Information Act requires disclosure of these records.
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 inspections 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.

Doc Code: DIST.E.FILE Document Description: Electronic Terminal Disclaimer - Filed		PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce
Electronic Petition Request	TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	
Application Number	15978147	
Filing Date	13-May-2018	
First Named Inventor	Lawrence Kates	
Attorney Docket Number	563800USCON19	
Title of Invention	Relaying Communications in a Wireless Sensor System	
<input checked="" type="checkbox"/> Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action <input checked="" type="checkbox"/> This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.		
Owner	Percent Interest	
Google LLC	100 %	
<p>The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)</p> <p>9019110</p> <p>as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.</p> <p>In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:</p> <ul style="list-style-type: none"> - expires for failure to pay a maintenance fee; - is held unenforceable; - is found invalid by a court of competent jurisdiction; - is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321; - has all claims canceled by a reexamination certificate; - is reissued; or - is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer. <p><input checked="" type="radio"/> Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.</p>		

<input type="radio"/> I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.	
Applicant claims the following fee status:	
<input type="radio"/> Small Entity <input type="radio"/> Micro Entity <input checked="" type="radio"/> Regular Undiscounted	
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.	
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am:	
<input checked="" type="radio"/> An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application Registration Number <u>72299</u>	
<input type="radio"/> A sole inventor	
<input type="radio"/> A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application	
<input type="radio"/> A joint inventor; all of whom are signing this request	
Signature	/Matthew Johnson/
Name	Matthew Johnson

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
 Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Electronic Patent Application Fee Transmittal				
Application Number:		15978147		
Filing Date:		13-May-2018		
Title of Invention:		Relaying Communications in a Wireless Sensor System		
First Named Inventor/Applicant Name:		Lawrence Kates		
Filer:		Michael K. Colby/Travis R. Henderson		
Attorney Docket Number:		563800USCON19		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
STATUTORY OR TERMINAL DISCLAIMER	1814	1	160	160
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				160

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 15978147

Filing Date: 13-May-2018

Applicant/Patent under Reexamination: Kates

Electronic Terminal Disclaimer filed on December 10, 2018

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt	
EFS ID:	34539516
Application Number:	15978147
International Application Number:	
Confirmation Number:	1307
Title of Invention:	Relaying Communications in a Wireless Sensor System
First Named Inventor/Applicant Name:	Lawrence Kates
Customer Number:	149118
Filer:	Michael K. Colby/Travis R. Henderson
Filer Authorized By:	Michael K. Colby
Attorney Docket Number:	563800USCON19
Receipt Date:	10-DEC-2018
Filing Date:	13-MAY-2018
Time Stamp:	17:33:06
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 160
RAM confirmation Number	121118INTEFSW17330200
Deposit Account	601804
Authorized User	Travis Henderson
<p>The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:</p> <p>37 CFR 1.16 (National application filing, search, and examination fees)</p> <p>37 CFR 1.17 (Patent application and reexamination processing fees)</p>	

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	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	33501	no	2
			8557d15479b0d420777d886220e4fed7b4ee8b27		

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30637	no	2
			7d3f8380b9c146838cd313cd5c388875d600d3a9		

Warnings:

Information:

Total Files Size (in bytes):			64138
------------------------------	--	--	-------

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

INVENTORSHIP: Lawrence Kates APPLICATION NO.: 15/978,147
EXAMINER: Ojiako K. Nwugo CONFIRMATION NO.: 1307
DATE FILED: May 13, 2018 GROUP ART UNIT: 2685
TITLE: Relaying Communications in a Wireless Sensor System

RESPONSE TO OFFICE ACTION DATED SEPTEMBER 19, 2018

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

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15978147
	Filing Date	2018-05-13
	First Named Inventor	Kates
	Art Unit	2685
	Examiner Name	Ojiako K. Nwugo
	Attorney Docket Number	563800USCON19

U.S.PATENTS							Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
	1	6005669		1999-12-21	PAHK, et al.		
	2	7005985		2006-02-28	STEEVES		
	3	7893827		2011-02-22	KATES		
If you wish to add additional U.S. Patent citation information please click the Add button.							Add
U.S.PATENT APPLICATION PUBLICATIONS							Remove
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
	1	20020012337		2002-01-31	SCHMIDL, et al.		
	2	20020070846		2002-06-13	BASTIAN, et al.		
	3	20020140963		2002-10-03	OTSUKA		

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15978147
	Filing Date		2018-05-13
	First Named Inventor	Kates	
	Art Unit	2685	
	Examiner Name	Ojiako K. Nwugo	
	Attorney Docket Number	563800USCON19	

	4	20040189485		2003-03-28	WANG	
	5	20040148632		2004-07-29	PARK, et al.	
	6	20040181496		2004-09-16	ODINOTSKI, et al.	
	7	20040264372		2004-12-30	HUANG	
	8	20180262985		2018-09-13	KATES	
	9	20180262987		2018-09-13	KATES	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² i	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							

If you wish to add additional Foreign Patent Document citation information please click the Add button.

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
--------------------	---------	---	----------------

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15978147
	Filing Date		2018-05-13
	First Named Inventor	Kates	
	Art Unit	2685	
	Examiner Name	Ojiako K. Nwugo	
Attorney Docket Number		563800USCON19	

1	"Final Office Action", Application Number 14/536,108, 8/29/18, 20 pages
2	"Non-Final Office Action", Application Number 15/978,145, 10/24/18, 10 pages
3	"Non-Final Office Action", Application Number 15/978,149, 10/30/18, 12 pages
4	"Non-Final Office Action", Application Number 15/590,880, 8/28/18, 10 pages

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15978147
	Filing Date		2018-05-13
	First Named Inventor	Kates	
	Art Unit	2685	
	Examiner Name	Ojiako K. Nwugo	
	Attorney Docket Number	563800USCON19	

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the 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 the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Matthew Johnson/	Date (YYYY-MM-DD)	2018-12-10
Name/Print	Matthew Johnson	Registration Number	72,299

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 the Freedom of Information Act requires disclosure of these records.
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 inspections 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.

Electronic Patent Application Fee Transmittal				
Application Number:		15978147		
Filing Date:		13-May-2018		
Title of Invention:		Relaying Communications in a Wireless Sensor System		
First Named Inventor/Applicant Name:		Lawrence Kates		
Filer:		Michael K. Colby/Travis R. Henderson		
Attorney Docket Number:		563800USCON19		
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:	34539815
Application Number:	15978147
International Application Number:	
Confirmation Number:	1307
Title of Invention:	Relaying Communications in a Wireless Sensor System
First Named Inventor/Applicant Name:	Lawrence Kates
Customer Number:	149118
Filer:	Michael K. Colby/Travis R. Henderson
Filer Authorized By:	Michael K. Colby
Attorney Docket Number:	563800USCON19
Receipt Date:	10-DEC-2018
Filing Date:	13-MAY-2018
Time Stamp:	17:46:21
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$240
RAM confirmation Number	121118INTEFSW17465000
Deposit Account	601804
Authorized User	Travis Henderson
<p>The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:</p> <p>37 CFR 1.16 (National application filing, search, and examination fees)</p> <p>37 CFR 1.17 (Patent application and reexamination processing fees)</p>	

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		GP-5638-00-US-CON19_OA_Response.pdf	105592	yes	10
			0f878cb425871ff5885ee1a91a94723b26f95ac0		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Applicant Arguments/Remarks Made in an Amendment		9	10	
	Claims		2	8	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	563800USCON19Supplemental IDS.pdf	612846	no	5
			3e2cbe4690481eda17cc884b5e434bfc8e7dab84		
Warnings:					
Information:					
3	Other Reference-Patent/App/Search documents	14536108FOA082918.pdf	1812540	no	20
			8e8ee6a3f79dc22ae17d6c9c51970763003f49aa		
Warnings:					
Information:					
4	Other Reference-Patent/App/Search documents	15590880NFOA082818.pdf	913280	no	10
			d8261fcb3d22f37c94c925f79f0d8484a923f338		
Warnings:					
Information:					
5	Other Reference-Patent/App/Search documents	15978145NFOA102418.pdf	860603	no	10
			0bfa74187b4f284480854c16e3dceada248db3a2		

Warnings:					
Information:					
6	Other Reference-Patent/App/Search documents	15978149NFOA103018.pdf	1092920	no	12
			cf3df00d77f11f533d988527633aa9aa78a7a ccf		
Warnings:					
Information:					
7	Fee Worksheet (SB06)	fee-info.pdf	30711	no	2
			ab3f39cae425a4d9a399528fc77b60ba4437 a22e		
Warnings:					
Information:					
Total Files Size (in bytes):			5428492		
<p>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.</p> <p><u>New Applications Under 35 U.S.C. 111</u> 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.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>					

REMARKS

In view of the following remarks, Applicant respectfully requests reconsideration of the application. Claims 1-20 are pending for consideration, of which claim 9 is amended. The amendment to claim 9 is simply to correct an informality noted by the Applicant.

Applicant does not concede the propriety of the rejections, or the Office's comments. Applicant reserves the right to further argue against the Office's comments and rejections. Additionally, Applicant requests that the Office contact the undersigned agent in an effort to further advance prosecution prior to issuing a subsequent Office Action.

Double Patenting Rejection

Claim 1 is provisionally rejected for non-statutory, obviousness-type double patenting over claim 2 of copending Application No. 15/601,705 in view of claim 27 of U.S. Patent No. 9,019,110 (*Office Action*, p. 3). As this is a provisional rejection between two patent applications, and because no other rejections will remain in the present application with the amendments as noted herein, Applicant requests that the provisional rejection be withdrawn (*see* MPEP § 804 I.B.). Claim 2 is provisionally rejected for non-statutory, obviousness-type double patenting over claim 11 of copending Application No. 15/601,705 (*Office Action*, p. 3). Claim 3 is provisionally rejected for non-statutory, obviousness-type double patenting over claim 3 of U.S. Patent No. 7,982,602 (*Office Action*, p. 3). Applicant submits herewith a terminal

disclaimer to obviate the non-statutory double patenting rejection. Accordingly, Applicant requests that the double patenting rejection be withdrawn.

Conclusion

Applicant respectfully requests that the Office issue a Notice of Allowability. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability, Applicant respectfully requests a telephone call for the purpose of scheduling an interview.

Further, while no fees are believed to be due at this time, the Commissioner is authorized to charge any fees which may be required now or at any time in the future, to the Deposit Account No. 60-1804.

Respectfully submitted,

Dated: December 10, 2018 By: /Matthew Johnson/

Matthew Johnson
Reg. No. 72,299
(208) 813-3925

LIST OF CLAIMS

This list of claims replaces all prior versions and listings.

- 5 **1. (Original)** An audio-enabled wireless device configured for bidirectional
wireless communication in a wireless mesh network, the wireless device comprising:
- a wireless transceiver;
 - an audio output element;
 - a reset element; and
 - a controller operatively coupled to the wireless transceiver, the audio output
- 10 element, and the reset element, the controller being configured to:
- receive a communication packet using the wireless transceiver, the
 - communication packet including a preamble portion, an identification code
 - portion, a data payload portion, and an integrity portion;
 - compare at least the identification code portion of the received
- 15 communication packet to a table of identifiers stored in the audio-enabled
wireless device;
- based on the comparison of the identification code portion of the received
 - communication packet matching an entry in the table of identifiers stored in the
 - audio-enabled wireless device, determine to relay the communication packet to
- 20 another audio-enabled wireless device; and
- relay the communication packet to the other audio-enabled wireless
 - device.

2. **(Original)** The audio-enabled wireless device of claim 1, the controller configured to:

prior to the relay of the communication packet, listen to a radio frequency channel to determine the radio frequency channel is not in use by another device; and
5 transmit, via the radio frequency channel, the communication packet.

3. **(Original)** The audio-enabled wireless device of claim 2, the controller configured to:

prior to the transmission of the communication packet, determine a delay value;
10 and
wait the determined delay value before the transmission of the communication packet.

4. **(Original)** The audio-enabled wireless device of claim 3, wherein the
15 delay value is a random delay value.

5. **(Original)** The audio-enabled wireless device of claim 1, wherein if the identification code portion of the received communication packet does not match an entry in the table of identifiers stored in the audio-enabled wireless device, the
20 controller is configured to not relay the communication packet.

6. **(Original)** The audio-enabled wireless device of claim 1, wherein the wireless transceiver is configured for spread-spectrum communication, and wherein the wireless transceiver is configured to communicate in one or more frequency bands
25 above a 900 MHz band.

7. **(Original)** The audio-enabled wireless device of claim 1, wherein the audio-enabled wireless device includes an Ethernet network connection, and wherein the controller is configured to communicate, using the Ethernet connection, via the Internet.

8. **(Original)** The wireless device of claim 1, wherein the reset element is a reset switch and wherein the reset switch is configured to activate a reset function.

9. **(Currently Amended)** A method of forwarding a communication packet by an audio-enabled wireless device, the method comprising:

receiving, by the audio-enabled wireless device using a wireless transceiver configured for bidirectional wireless communication, the communication packet, the communication packet including a preamble portion, an identification code portion, a data payload portion, and an integrity portion, the audio-enabled wireless device including an audio output element and a reset element;

comparing at least the identification code portion of the received communication packet to a table of identifiers stored in the audio-enabled wireless device;

based on the comparing indicating that the identification code portion of the received communication packet matches an entry in the table of identifiers stored in the audio-enabled wireless device, determining to relay the communication packet to another audio-enabled wireless device; and

relaying the communication packet to the other audio-enabled wireless device.

5 **10. (Original)** The method of claim 9, comprising:
prior to the relaying the communication packet, listening to a radio frequency
channel to determine the radio frequency channel is not in use by another device; and
transmitting, via the radio frequency channel, the communication packet.

10 **11. (Original)** The method of claim 10, comprising:
prior to the transmitting the communication packet, determining a delay value;
and
waiting the determined delay value before the transmitting the communication
packet.

15 **12. (Original)** The method of claim 11, wherein the delay value is a random
delay value.

20 **13. (Original)** The method of claim 9, wherein the wireless transceiver is
configured for spread-spectrum communication and wherein the wireless transceiver is
configured to communicate in one or more frequency bands above a 900 MHz band.

25 **14. (Original)** The method of claim 9, wherein the reset element is a reset
switch, the method comprising:
activating a reset function of the audio-enabled wireless device in response to an
input to the reset switch.

15. **(Original)** A wireless mesh network system, comprising:
multiple audio-enabled wireless devices, each of the multiple audio-enabled
wireless devices comprising a wireless transceiver, a reset element, and an audio output
element, each of the audio-enabled wireless devices being configured to:

5 receive, using the wireless transceiver a communication packet, the
communication packet including a preamble portion, an identification code
portion, a data payload portion, and an integrity portion;

compare at least the identification code portion of the received
communication packet to a table of identifiers stored in the audio-enabled
10 wireless device;

based on the comparison of the identification code portion of the received
communication packet matching an entry in the table of identifiers stored in the
audio-enabled wireless device, determine to relay the communication packet to
another of the multiple audio-enabled wireless devices; and

15 relay the communication packet to the other of the multiple audio-enabled
wireless devices.

16. **(Original)** The wireless mesh network system of claim 15, wherein one
or more of the multiple audio-enabled wireless devices includes an Ethernet network
20 connection, the one or more of the multiple audio-enabled wireless devices being
configured to:

communicate, using the Ethernet network connection, via the Internet; and

transmit one or more commands to other of the multiple audio-enabled wireless
devices.

5 **17. (Original)** The wireless mesh network system of claim 15, wherein each of the multiple audio-enabled wireless devices is configured for spread-spectrum communication and wherein each of the multiple audio-enabled wireless devices is configured to communicate in one or more frequency bands above a 900 MHz band.

18. (Original) The wireless mesh network system of claim 15, wherein each of the multiple audio-enabled wireless devices is configured to:

 prior to a transmission of one or more communication packets, listen to a radio frequency channel to determine the radio frequency channel is not in use by another device; and

 transmit, via the radio frequency channel, the one or more communication packets.

15 **19. (Original)** The wireless mesh network system of claim 15, wherein each of the multiple audio-enabled wireless devices is configured to:

 listen to a radio frequency channel to determine if the radio frequency channel is in use; and

 switch to a different radio frequency channel when the radio frequency channel is in use.

20. (Original) The wireless mesh network system of claim 15, wherein each of the multiple audio-enabled wireless devices is configured to:

prior to a transmission of one or more communication packets, determine a delay value; and

5 wait the determined delay value before the transmission of the one or more communication packets.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 15/978,147		Filing Date 05/13/2018		<input type="checkbox"/> To be Mailed			
ENTITY: <input checked="" type="checkbox"/> LARGE <input type="checkbox"/> SMALL <input type="checkbox"/> MICRO											
APPLICATION AS FILED - PART I											
		(Column 1)		(Column 2)							
FOR		NUMBER FILED		NUMBER EXTRA		RATE (\$)		FEE (\$)			
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A		N/A		N/A					
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))		N/A		N/A		N/A					
<input type="checkbox"/> 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 \$100 =					
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 =		*		x \$460 =					
<input type="checkbox"/> 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).									
<input type="checkbox"/> 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											
		(Column 1)		(Column 2)		(Column 3)					
AMENDMENT	12/10/2018	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0		x \$100 =		0		
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x \$460 =		0		
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
								TOTAL ADD'L FEE		0	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA		RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	*	Minus	**	=		x \$0 =				
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x \$0 =				
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))										
	<input type="checkbox"/> 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.								LIE			
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".								/MARQUITA D JONES/			
*** 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.											

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.



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

NOTICE OF ALLOWANCE AND FEE(S) DUE

149118 7590 01/17/2019
Colby Nipper / Google
291 East Shore Drive
Suite 200
Eagle, ID 83616

EXAMINER

NWUGO, OIYAKO K

ART UNIT

PAPER NUMBER

2685

DATE MAILED: 01/17/2019

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/978,147	05/13/2018	Lawrence Kates	563800USCON19	1307

TITLE OF INVENTION: Relaying Communications in a Wireless Sensor System

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1000	\$0.00	\$0.00	\$1000	04/17/2019

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

149118 7590 01/17/2019
Colby Nipper / Google
291 East Shore Drive
Suite 200
Eagle, ID 83616

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/978,147	05/13/2018	Lawrence Kates	563800USCON19	1307

TITLE OF INVENTION: Relaying Communications in a Wireless Sensor System

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1000	\$0.00	\$0.00	\$1000	04/17/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
NWUGO, OJIAKO K	2685	340-870390

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

1 _____

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☐ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



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.
15/978,147	05/13/2018	Lawrence Kates	563800USCON19	1307
149118	7590	01/17/2019	EXAMINER	
Colby Nipper / Google			NWUGO, OJIAKO K	
291 East Shore Drive			ART UNIT	PAPER NUMBER
Suite 200			2685	
Eagle, ID 83616			DATE MAILED: 01/17/2019	

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. 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 30 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, Virginia 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.** 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.

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.

Notice of Allowability	Application No. 15/978,147	Applicant(s) Kates, Lawrence	
	Examiner OJIAKO K NWUGO	Art Unit 2685	AIA Status Yes

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Terminal Disclaimer of 12/10/2018.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
2. ☐ 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.
3. ☒ The allowed claim(s) is/are 1-20. As a result of the allowed claim(s), 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**.
4. ☐ 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)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.


Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date ____. 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material ____. 4. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date ____.	5. <input type="checkbox"/> Examiner's Amendment/Comment 6. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance 7. <input type="checkbox"/> Other ____.
---	--

/OJIAKO K NWUGO/ Primary Examiner, Art Unit 2685	
---	--

Search Notes 	Application/Control No. 15/978,147	Applicant(s)/Patent Under Reexamination Kates, Lawrence
	Examiner OJIAKO K NWUGO	Art Unit 2685


CPC - Searched*		
Symbol	Date	Examiner
G08B1/08 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10	09/14/2018	O.N.
G06F1/3209	09/14/2018	O.N.
G08B1/08 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10	09/17/2018	O.N.
G06F1/3209	09/17/2018	O.N.
G08B1/08 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10	01/04/2019	O.N.
G06F1/3209	01/04/2019	O.N.

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
340	573.1, 870.39	09/14/2018	O.N.
340	573.1, 870.39	09/17/2018	O.N.
340	573.1, 870.39	01/04/2019	O.N.

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.


/OJIAKO K NWUGO/ Primary Examiner, Art Unit 2685	/OJIAKO K NWUGO/ Primary Examiner, Art Unit 2685
---	---

Search Notes 	Application/Control No. 15/978,147	Applicant(s)/Patent Under Reexamination Kates, Lawrence
	Examiner OJIAKO K NWUGO	Art Unit 2685

Search Notes		
Search Notes	Date	Examiner
See attached search history, Inventor name search has been completed.	09/14/2018	O.N.
G08B1/08 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10	09/14/2018	O.N.
G06F1/3209	09/14/2018	O.N.
340/573.1, 870.39	09/14/2018	O.N.
G08B1/08 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10	09/17/2018	O.N.
G06F1/3209	09/17/2018	O.N.
340/573.1, 870.39	09/17/2018	O.N.
See attached search history, Inventor name search has been completed.	09/17/2018	O.N.
G08B1/08 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10 with text	01/04/2019	O.N.
G06F1/3209 with text	01/04/2019	O.N.
340/573.1, 870.39 with text	01/04/2019	O.N.
See attached search history, Inventor name search has been completed.	01/04/2019	O.N.

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	same as searched	09/14/2018	O.N.
	same as searched	09/17/2018	O.N.
	same as searched	01/04/2019	O.N.

/OJIAKO K NWUGO/ Primary Examiner, Art Unit 2685	/OJIAKO K NWUGO/ Primary Examiner, Art Unit 2685
---	---

Issue Classification 	Application/Control No. 15/978,147	Applicant(s)/Patent Under Reexamination Kates, Lawrence
	Examiner OJIAKO K NWUGO	Art Unit 2685


CPC						
Symbol					Type	Version
G08B	/	25	/	10	F	2013-01-01
G08B	/	1	/	08	I	2013-01-01
G08B	/	25	/	009	I	2013-01-01
G08B	/	17	/	10	I	2013-01-01
G06F	/	1	/	3209	I	2013-01-01
G08B	/	17	/	00	I	2013-01-01
G08B	/	25	/	001	I	2013-01-01
H04Q	/	9	/	02	I	2013-01-01
G08B	/	25	/	007	I	2013-01-01
G08B	/	21	/	182	I	2013-01-01
H04W	/	52	/	0225	I	2013-01-01
H04W	/	84	/	18	I	2013-01-01
G08B	/	21	/	14	I	2013-01-01
G08B	/	13	/	04	I	2013-01-01
H04Q	/	9	/	00	I	2013-01-01
Y02D	/	70	/	144	A	2018-01-01
Y02D	/	70	/	26	A	2018-01-01
Y02D	/	70	/	00	A	2018-01-01
Y02B	/	70	/	30	A	2013-01-01
Y02D	/	70	/	22	A	2018-01-01

CPC Combination Sets				
Symbol	Type	Set	Ranking	Version
/				

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/OJIAKO K NWUGO/ Primary Examiner, Art Unit 2685	04 January 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office

Part of Paper No.: 20190104

Issue Classification 	Application/Control No. 15/978,147	Applicant(s)/Patent Under Reexamination Kates, Lawrence
	Examiner OJIAKO K NWUGO	Art Unit 2685

INTERNATIONAL CLASSIFICATION			
CLAIMED			
G08B	/	25	/ 10

NON-CLAIMED			
/		/	


US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/OJIAKO K NWUGO/ Primary Examiner, Art Unit 2685	04 January 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

U.S. Patent and Trademark Office

Part of Paper No.: 20190104

Issue Classification 	Application/Control No. 15/978,147	Applicant(s)/Patent Under Reexamination Kates, Lawrence
	Examiner OJIAKO K NWUGO	Art Unit 2685

<input checked="" type="checkbox"/> Claims renumbered in the same order as presented by applicant <input type="checkbox"/> CPA <input type="checkbox"/> T.D. <input type="checkbox"/> R.1.47															
CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		10		19										
	2		11		20										
	3		12												
	4		13												
	5		14												
	6		15												
	7		16												
	8		17												
	9		18												

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 20	
/OJIAKO K NWUGO/ Primary Examiner, Art Unit 2685 (Primary Examiner) _____ (Date) 04 January 2019		O.G. Print Claim(s) 1	O.G. Print Figure 1

U.S. Patent and Trademark Office

Part of Paper No.: 20190104

Receipt date: 12/10/2018

15/978,147 - GAU: 2685

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15978147
	Filing Date	2018-05-13
	First Named Inventor	Kates
	Art Unit	2685
	Examiner Name	Ojiako K. Nwugo
	Attorney Docket Number	563800USCON19

U.S.PATENTS							Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
	1	6005669		1999-12-21	PAHK, et al.		
	2	7005985		2006-02-28	STEEVES		
	3	7893827		2011-02-22	KATES		
If you wish to add additional U.S. Patent citation information please click the Add button.							Add
U.S.PATENT APPLICATION PUBLICATIONS							Remove
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	
	1	20020012337		2002-01-31	SCHMIDL, et al.		
	2	20020070846		2002-06-13	BASTIAN, et al.		
	3	20020140963		2002-10-03	OTSUKA		

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15978147
Filing Date	2018-05-13
First Named Inventor	Kates
Art Unit	2685
Examiner Name	Ojiako K. Nwugo
Attorney Docket Number	563800USCON19

4	20040189485	2003-03-28	WANG
5	20040148632	2004-07-29	PARK, et al.
6	20040181496	2004-09-16	ODINOTSKI, et al.
7	20040264372	2004-12-30	HUANG
8	20180262985	2018-09-13	KATES
9	20180262987	2018-09-13	KATES

If you wish to add additional U.S. Published Application citation information please click the Add button. [Add](#)

FOREIGN PATENT DOCUMENTS
[Remove](#)

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² i	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							

If you wish to add additional Foreign Patent Document citation information please click the Add button. [Add](#)

NON-PATENT LITERATURE DOCUMENTS
[Remove](#)

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
--------------------	---------	---	----------------

Receipt date: 12/10/2018

15/978,147 - GAU: 2685

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15978147
Filing Date	2018-05-13
First Named Inventor	Kates
Art Unit	2685
Examiner Name	Ojiako K. Nwugo
Attorney Docket Number	563800USCON19

1	"Final Office Action", Application Number 14/536,108, 8/29/18, 20 pages
2	"Non-Final Office Action", Application Number 15/978,145, 10/24/18, 10 pages
3	"Non-Final Office Action", Application Number 15/978,149, 10/30/18, 12 pages
4	"Non-Final Office Action", Application Number 15/590,880, 8/28/18, 10 pages

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/OJIAKO K NWUGO/	Date Considered	01/04/2019
--------------------	------------------	-----------------	------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15978147
Filing Date	2018-05-13
First Named Inventor	Kates
Art Unit	2685
Examiner Name	Ojiako K. Nwugo
Attorney Docket Number	563800USCON19

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the 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 the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Matthew Johnson/	Date (YYYY-MM-DD)	2018-12-10
Name/Print	Matthew Johnson	Registration Number	72,299

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 the Freedom of Information Act requires disclosure of these records.
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 inspections 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.

~~ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.K.N/~~

EAST Search History**EAST Search History (Prior Art)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	7	((("Kates") near2 ("Lawrence"))).INV. and (random).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/01/04 13:55
L2	0	(G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).pn. and pay\$1load\$1 and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/01/04 14:14
L3	6	340/573.1,870.39.ccls. and pay\$1load\$1 and @ad<="20040527"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2019/01/04 14:17

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L4	0	(340/573.1,870.39.ccls. and (wireless broadcast) with (checksum with authentic\$5)).clm.	US- PGPUB; USPAT	OR	OFF	2019/01/04 14:18
L5	0	((G08B1/08 G06F1/3209 G08B17/00 G08B25/009 G08B25/001 G08B17/10 G08B25/10).cpc. and pay\$1load\$1 with table).clm.	US- PGPUB; USPAT	OR	OFF	2019/01/04 14:18
L6	25	(((wireless broadcast) with (checksum with authentic\$5)).clm.	US- PGPUB; USPAT	OR	OFF	2019/01/04 14:18

1/ 4/ 2019 2:21:23 PM

C:\Users\onwugo\Documents\EAST\Workspaces\15978147.wsp

UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTORSHIP: Lawrence Kates APPLICATION NO.: 15/978,147
EXAMINER: Ojiako K. Nwugo CONFIRMATION NO.: 1307
DATE FILED: May 13, 2018 GROUP ART UNIT: 2685
TITLE: Relaying Communications in a Wireless Sensor System

POST ALLOWANCE AMENDMENT UNDER 37 CFR § 1.312

5

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

10

This amendment is filed under 37 C.F.R. § 1.312 after a Notice of Allowance and prior to payment of the issue fee to correct informalities in the claims as noted by the Applicant.

LIST OF CLAIMS

This list of claims replaces all prior versions and listings.

1. **(Currently Amended)** An audio-enabled wireless device configured for
5 bidirectional wireless communication in a wireless mesh network, the wireless device
comprising:

a wireless transceiver;

an audio output element;

a reset element; and

10 a controller operatively coupled to the wireless transceiver, the audio output
element, and the reset element, the controller being configured to:

receive a communication packet using the wireless transceiver, the
communication packet including a preamble ~~portion~~ portion, an identification
code portion, a data payload portion, and an integrity portion;

15 compare at least the identification code portion of the received
communication packet to a table of identifiers stored in the audio-enabled
wireless device;

based on the comparison of the identification code portion of the received
communication packet matching an entry in the table of identifiers stored in the
20 audio-enabled wireless device, determine to relay the communication packet to
another audio-enabled wireless device; and

relay the communication packet to the other audio-enabled wireless
device.

2. **(Original)** The audio-enabled wireless device of claim 1, the controller configured to:

prior to the relay of the communication packet, listen to a radio frequency channel to determine the radio frequency channel is not in use by another device; and
5 transmit, via the radio frequency channel, the communication packet.

3. **(Original)** The audio-enabled wireless device of claim 2, the controller configured to:

prior to the transmission of the communication packet, determine a delay value;
10 and
wait the determined delay value before the transmission of the communication packet.

4. **(Original)** The audio-enabled wireless device of claim 3, wherein the
15 delay value is a random delay value.

5. **(Original)** The audio-enabled wireless device of claim 1, wherein if the identification code portion of the received communication packet does not match an entry in the table of identifiers stored in the audio-enabled wireless device, the
20 controller is configured to not relay the communication packet.

6. **(Original)** The audio-enabled wireless device of claim 1, wherein the wireless transceiver is configured for spread-spectrum communication, and wherein the wireless transceiver is configured to communicate in one or more frequency bands
25 above a 900 MHz band.

7. **(Original)** The audio-enabled wireless device of claim 1, wherein the audio-enabled wireless device includes an Ethernet network connection, and wherein the controller is configured to communicate, using the Ethernet connection, via the Internet.

8. **(Original)** The wireless device of claim 1, wherein the reset element is a reset switch and wherein the reset switch is configured to activate a reset function.

9. **(Currently Amended)** A method of forwarding a communication packet by an audio-enabled wireless device, the method comprising:

receiving, by the audio-enabled wireless device using a wireless transceiver configured for bidirectional wireless communication, the communication packet, the communication packet including a preamble ~~portion~~ portion, an identification code portion, a data payload portion, and an integrity portion, the audio-enabled wireless device including an audio output element and a reset element;

comparing at least the identification code portion of the received communication packet to a table of identifiers stored in the audio-enabled wireless device;

based on the comparing indicating that the identification code portion of the received communication packet matches an entry in the table of identifiers stored in the audio-enabled wireless device, determining to relay the communication packet to another audio-enabled wireless device; and

relaying the communication packet to the other audio-enabled wireless device.

5 **10. (Original)** The method of claim 9, comprising:
prior to the relaying the communication packet, listening to a radio frequency
channel to determine the radio frequency channel is not in use by another device; and
transmitting, via the radio frequency channel, the communication packet.

10 **11. (Original)** The method of claim 10, comprising:
prior to the transmitting the communication packet, determining a delay value;
and
waiting the determined delay value before the transmitting the communication
packet.

15 **12. (Original)** The method of claim 11, wherein the delay value is a random
delay value.

20 **13. (Original)** The method of claim 9, wherein the wireless transceiver is
configured for spread-spectrum communication and wherein the wireless transceiver is
configured to communicate in one or more frequency bands above a 900 MHz band.

14. (Original) The method of claim 9, wherein the reset element is a reset
switch, the method comprising:
activating a reset function of the audio-enabled wireless device in response to an
input to the reset switch.

15. **(Currently Amended)** A wireless mesh network system, comprising:
multiple audio-enabled wireless devices, each of the multiple audio-enabled
wireless devices comprising a wireless transceiver, a reset element, and an audio output
element, each of the audio-enabled wireless devices being configured to:

5 receive, using the wireless transceiver a communication packet, the
communication packet including a preamble ~~portion~~ portion, an identification
code portion, a data payload portion, and an integrity portion;

compare at least the identification code portion of the received
communication packet to a table of identifiers stored in the audio-enabled
10 wireless device;

based on the comparison of the identification code portion of the received
communication packet matching an entry in the table of identifiers stored in the
audio-enabled wireless device, determine to relay the communication packet to
another of the multiple audio-enabled wireless devices; and

15 relay the communication packet to the other of the multiple audio-enabled
wireless devices.

16. **(Original)** The wireless mesh network system of claim 15, wherein one
or more of the multiple audio-enabled wireless devices includes an Ethernet network
20 connection, the one or more of the multiple audio-enabled wireless devices being
configured to:

communicate, using the Ethernet network connection, via the Internet; and

transmit one or more commands to other of the multiple audio-enabled wireless
25 devices.

5 **17. (Original)** The wireless mesh network system of claim 15, wherein each of the multiple audio-enabled wireless devices is configured for spread-spectrum communication and wherein each of the multiple audio-enabled wireless devices is configured to communicate in one or more frequency bands above a 900 MHz band.

18. (Original) The wireless mesh network system of claim 15, wherein each of the multiple audio-enabled wireless devices is configured to:

 prior to a transmission of one or more communication packets, listen to a radio frequency channel to determine the radio frequency channel is not in use by another device; and

 transmit, via the radio frequency channel, the one or more communication packets.

15 **19. (Original)** The wireless mesh network system of claim 15, wherein each of the multiple audio-enabled wireless devices is configured to:

 listen to a radio frequency channel to determine if the radio frequency channel is in use; and

 switch to a different radio frequency channel when the radio frequency channel is in use.

20. (Original) The wireless mesh network system of claim 15, wherein each of the multiple audio-enabled wireless devices is configured to:

prior to a transmission of one or more communication packets, determine a delay value; and

5 wait the determined delay value before the transmission of the one or more communication packets.

REMARKS

Applicant respectfully requests entry of this amendment to correct informalities in the claims noted by the Applicant. Claims 1-20 are currently pending, and claims 1, 9, and 15 are amended herein to address the afore-mentioned informalities. This amendment is filed after the Notice of Allowance dated January 17, 2019, in which claims 1-20 were indicated as allowed. Applicant submits that claims 1-20 remain in condition for allowance and no new matter has been added.

Conclusion

Applicant respectfully requests that the Office issue an updated Notice of Allowance. If the Office's next anticipated action is to be anything other than issuance of the application, Applicant respectfully requests a telephone call for the purpose of scheduling an interview to discuss any remaining issues that may preclude issuance.

Respectfully submitted,

Dated: January 18, 2019

By: /Matthew Johnson/

Matthew Johnson
Reg. No. 72,299
(208) 813-3925

Electronic Acknowledgement Receipt	
EFS ID:	34904753
Application Number:	15978147
International Application Number:	
Confirmation Number:	1307
Title of Invention:	Relaying Communications in a Wireless Sensor System
First Named Inventor/Applicant Name:	Lawrence Kates
Customer Number:	149118
Filer:	Michael K. Colby/Todd Richards
Filer Authorized By:	Michael K. Colby
Attorney Docket Number:	563800USCON19
Receipt Date:	18-JAN-2019
Filing Date:	13-MAY-2018
Time Stamp:	17:09:11
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		GP-5638-00-US- CON19_312_Amendment.pdf	91007	yes	9
			47aeb11b1811accf91e94f52c80e7807b6de c606		

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Amendment after Notice of Allowance (Rule 312)	1	1
	Claims	2	8
	Applicant Arguments/Remarks Made in an Amendment	9	9
Warnings:			
Information:			
Total Files Size (in bytes):		91007	
<p>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.</p> <p><u>New Applications Under 35 U.S.C. 111</u> 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.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>			

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15978147
	Filing Date	2018-05-13
	First Named Inventor	Kates
	Art Unit	2685
	Examiner Name	Ojiako K. Nwugo
	Attorney Docket Number	563800USCON19

U.S.PATENTS							Remove	
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear		
	1							
If you wish to add additional U.S. Patent citation information please click the Add button.							Add	
U.S.PATENT APPLICATION PUBLICATIONS							Remove	
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear		
	1							
If you wish to add additional U.S. Published Application citation information please click the Add button.							Add	
FOREIGN PATENT DOCUMENTS							Remove	
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² ¹	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							
If you wish to add additional Foreign Patent Document citation information please click the Add button								Add
NON-PATENT LITERATURE DOCUMENTS								Remove
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.						T ⁵

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15978147
	Filing Date		2018-05-13
	First Named Inventor	Kates	
	Art Unit	2685	
	Examiner Name	Ojiako K. Nwugo	
	Attorney Docket Number	563800USCON19	

1	"Final Office Action", Application Number 15/821,213, 12/27/18, 9 pages		
If you wish to add additional non-patent literature document citation information please click the Add button <input type="button" value="Add"/>			
EXAMINER SIGNATURE			
Examiner Signature			Date Considered
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			
<small> ¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached. </small>			

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15978147
	Filing Date		2018-05-13
	First Named Inventor	Kates	
	Art Unit	2685	
	Examiner Name	Ojiako K. Nwugo	
	Attorney Docket Number	563800USCON19	

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the 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 the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☒ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Matthew Johnson/	Date (YYYY-MM-DD)	2019-01-22
Name/Print	Matthew Johnson	Registration Number	72,299

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 the Freedom of Information Act requires disclosure of these records.
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 inspections 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.

Electronic Patent Application Fee Transmittal				
Application Number:		15978147		
Filing Date:		13-May-2018		
Title of Invention:		Relaying Communications in a Wireless Sensor System		
First Named Inventor/Applicant Name:		Lawrence Kates		
Filer:		Michael K. Colby/Travis R. Henderson		
Attorney Docket Number:		563800USCON19		
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:	34926520
Application Number:	15978147
International Application Number:	
Confirmation Number:	1307
Title of Invention:	Relaying Communications in a Wireless Sensor System
First Named Inventor/Applicant Name:	Lawrence Kates
Customer Number:	149118
Filer:	Michael K. Colby/Travis R. Henderson
Filer Authorized By:	Michael K. Colby
Attorney Docket Number:	563800USCON19
Receipt Date:	22-JAN-2019
Filing Date:	13-MAY-2018
Time Stamp:	17:47:55
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$240
RAM confirmation Number	012319INTEFSW17484500
Deposit Account	601804
Authorized User	Travis Henderson
<p>The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:</p> <p>37 CFR 1.16 (National application filing, search, and examination fees)</p> <p>37 CFR 1.17 (Patent application and reexamination processing fees)</p>	

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	Information Disclosure Statement (IDS) Form (SB08)	563800USCON19Supplemental IDS.pdf	612235	no	4
			0154e4aa710f26f4c6110a54df8eaa9affca779		
Warnings:					
Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
2	Other Reference-Patent/App/Search documents	15821213FOA122718.pdf	854761	no	9
			401d14ee0b8b70cf57a7ecd0dc226bc34e443911		
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30710	no	2
			9ade7a1a3000d854599297442b80af73f3236225		
Warnings:					
Information:					
Total Files Size (in bytes):			1497706		

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.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

149118 7590 01/17/2019
Colby Nipper / Google
291 East Shore Drive
Suite 200
Eagle, ID 83616

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
Filed via EFS Website
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/978,147	05/13/2018	Lawrence Kates	563800USCON19	1307

TITLE OF INVENTION: Relaying Communications in a Wireless Sensor System

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1000	\$0.00	\$0.00	\$1000	04/17/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
NWUGO, OJIAKO K	2685	340-870390

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Colby Nipper

2

3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

Google LLC

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Mountain View, CA

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☐ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No.

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature /Matthew Johnson/

Date January 22, 2019

Typed or printed name Matthew Johnson

Registration No. 72,299

Electronic Patent Application Fee Transmittal				
Application Number:		15978147		
Filing Date:		13-May-2018		
Title of Invention:		Relaying Communications in a Wireless Sensor System		
First Named Inventor/Applicant Name:		Lawrence Kates		
Filer:		Michael K. Colby/Travis R. Henderson		
Attorney Docket Number:		563800USCON19		
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:				
UTILITY APPL ISSUE FEE	1501	1	1000	1000

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1000

Electronic Acknowledgement Receipt	
EFS ID:	34926667
Application Number:	15978147
International Application Number:	
Confirmation Number:	1307
Title of Invention:	Relaying Communications in a Wireless Sensor System
First Named Inventor/Applicant Name:	Lawrence Kates
Customer Number:	149118
Filer:	Michael K. Colby/Travis R. Henderson
Filer Authorized By:	Michael K. Colby
Attorney Docket Number:	563800USCON19
Receipt Date:	22-JAN-2019
Filing Date:	13-MAY-2018
Time Stamp:	17:55:02
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 1000
RAM confirmation Number	012319INTEFSW17553500
Deposit Account	601804
Authorized User	Travis Henderson
<p>The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:</p> <p>37 CFR 1.16 (National application filing, search, and examination fees)</p> <p>37 CFR 1.17 (Patent application and reexamination processing fees)</p>	

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	Issue Fee Payment (PTO-85B)	563800USCON19IssueFeeTransmittal.pdf	82768	no	1
			6f9646911588f5d52a582263dd18ab8f3e811917		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30502	no	2
			de2f5349fed3224eb7d02e36c7e16928062526e0		
Warnings:					
Information:					
Total Files Size (in bytes):			113270		
<p>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.</p> <p><u>New Applications Under 35 U.S.C. 111</u> 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.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> 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.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> 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.</p>					

UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTORSHIP: Lawrence Kates APPLICATION NO.: 15/978,147
EXAMINER: Ojiako K. Nwugo CONFIRMATION NO.: 1307
DATE FILED: May 13, 2018 GROUP ART UNIT: 2685
TITLE: Relaying Communications in a Wireless Sensor System

POST ALLOWANCE AMENDMENT UNDER 37 CFR § 1.312

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

This amendment is filed under 37 C.F.R. § 1.312 after a Notice of Allowance and prior to payment of the issue fee to correct informalities in the claims as noted by the Applicant.

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15978147
	Filing Date	2018-05-13
	First Named Inventor	Kates
	Art Unit	2685
	Examiner Name	Ojiako K. Nwugo
	Attorney Docket Number	563800USCON19

U.S.PATENTS							Remove	
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear		
	1							
If you wish to add additional U.S. Patent citation information please click the Add button.							Add	
U.S.PATENT APPLICATION PUBLICATIONS							Remove	
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear		
	1							
If you wish to add additional U.S. Published Application citation information please click the Add button.							Add	
FOREIGN PATENT DOCUMENTS							Remove	
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² ¹	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							
If you wish to add additional Foreign Patent Document citation information please click the Add button								Add
NON-PATENT LITERATURE DOCUMENTS								Remove
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.						T ⁵

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15978147
Filing Date	2018-05-13
First Named Inventor	Kates
Art Unit	2685
Examiner Name	Ojiako K. Nwugo
Attorney Docket Number	563800USCON19

1	"Final Office Action", Application Number 15/821,213, 12/27/18, 9 pages		
If you wish to add additional non-patent literature document citation information please click the Add button <input type="button" value="Add"/>			
EXAMINER SIGNATURE			
Examiner Signature	/OJIAKO K NWUGO/		Date Considered 02/04/2019
<p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>			
<p>¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.</p>			

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15978147
	Filing Date	2018-05-13
	First Named Inventor	Kates
	Art Unit	2685
	Examiner Name	Ojiako K. Nwugo
	Attorney Docket Number	563800USCON19

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the 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 the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☒ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Matthew Johnson/	Date (YYYY-MM-DD)	2019-01-22
Name/Print	Matthew Johnson	Registration Number	72,299

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 the Freedom of Information Act requires disclosure of these records.
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 inspections 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.

~~ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /O.K.N/~~

Receipt date: 12/10/2018

15/978,147 - GAU: 2685

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	15978147
Filing Date	2018-05-13
First Named Inventor	Kates
Art Unit	2685
Examiner Name	Ojiako K. Nwugo
Attorney Docket Number	563800USCON19

Change(s) applied to document /S.H./ 1/25/2019	4	20040189485		09/2004 2003-03-20	WANG	
	5	20040148632		2004-07-29	PARK, et al.	
	6	20040181496		2004-09-16	ODINOTSKI, et al.	
	7	20040264372		2004-12-30	HUANG	
	8	20180262985		2018-09-13	KATES	
	9	20180262987		2018-09-13	KATES	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² i	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							

If you wish to add additional Foreign Patent Document citation information please click the Add button.

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵

Doc code: IDS

PTO/SB/08a (01-10)

Doc description: Information Disclosure Statement (IDS) Field

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5686902		1997-11-11	Reis, Robert S., et al.	
		5719556		1998-02-17	Albin et al.	
		5723848		1998-03-03	Bilenko, George et al.	
		5732007		1998-03-24	Grushin, Anatoly et al.	
		5732077		1998-03-24	Whitehead	
		5736928		1998-04-07	Tice et al.	
		5478092		12/1995 1998-05-05	Ishikawa et al. Arsenault et al.	
		5748092		1998-05-05	Arsenault et al.	
		5761195		1998-06-02	Lu et al.	
		5790946		1998-08-04	Rotzoll, Robert R.	
		5793882		1998-08-11	Piatek et al.	
		5802274		1998-09-01	Dorak, John et al.	

Change(s) applied
to document,
/S.H./
1/25/2019

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		4964121		1990-10-16	Moore	
		4977527		1990-12-11	Shaw et al.	
		4996518		1991-02-26	Takahashi et al.	
		5040238		1991-08-13	Comroe et al.	
		5054052		1991-10-01	Nonami	
		5107446		1992-04-21	Shaw et al.	
		5117501		1992-05-26	Childress et al.	
		5129096		1992-07-07	Burns	
		5134644		1992-07-28	Garton et al.	
		5138562		1992-08-11	Shaw et al.	
		5151683		1992-09-29	Takahashi et al.	
		551683		12/1895 1992-09-29	Minor Takahashi et al.	

Change(s) applied
to document,

/S.H./

1/25/2019

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

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Field

PTO/SB/08a (01-10)

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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	Unassigned
	Filing Date	Herewith
	First Named Inventor	Lawrence Kates
	Art Unit	Unassigned
	Examiner Name	Unassigned
	Attorney Docket Number	563800USCON19

		5159315		1992-10-27	Takahashi et al.	
		5168262		1992-12-01	Okayama	
		5188143		1993-02-23	Krebs	
		5201061		1993-04-06	Goldberg, Steven J., et al.	
		5210540		1993-05-11	Masumoto	
		5224648		1993-07-06	Simon et al.	
		5229750		1993-07-20	Welch et al.	
		5240022		1993-08-31	Franklin	
		5260687		1993-11-09	Yamauchi et al.	
		5265025		1993-11-23	Hirata	
		5400254		1993-11-23 03/1995	Hirata Fujita	
		5267180		1993-11-30	Okayama	

Change(s) applied
to document,
/S.H./
1/30/2019

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



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.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/978,147	03/12/2019	10229586	563800USCON19	1307
149118 7590	02/20/2019			
Colby Nipper / Google 291 East Shore Drive Suite 200 Eagle, ID 83616				

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Lawrence Kates, Corona Del Mar, CA;
Google LLC, Mountain View, CA;

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 USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

IR103 (Rev. 10/09)

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15978147
	Filing Date	2018-05-13
	First Named Inventor	Kates
	Art Unit	2685
	Examiner Name	Ojiako K. Nwugo
	Attorney Docket Number	563800USCON19

U.S.PATENTS							Remove	
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear		
	1							
If you wish to add additional U.S. Patent citation information please click the Add button.							Add	
U.S.PATENT APPLICATION PUBLICATIONS							Remove	
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear		
	1	20040246934		2004-12-09	KIM			
	2	20050245270		2005-11-03	SARTORI, et al.			
If you wish to add additional U.S. Published Application citation information please click the Add button.							Add	
FOREIGN PATENT DOCUMENTS							Remove	
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							
If you wish to add additional Foreign Patent Document citation information please click the Add button								Add
NON-PATENT LITERATURE DOCUMENTS								Remove

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15978147
	Filing Date		2018-05-13
	First Named Inventor	Kates	
	Art Unit	2685	
	Examiner Name	Ojiako K. Nwugo	
	Attorney Docket Number	563800USCON19	

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	"Non-Final Office Action", Application Number 15/841,092, 1/24/19, 8 pages	
If you wish to add additional non-patent literature document citation information please click the Add button <input type="button" value="Add"/>			
EXAMINER SIGNATURE			
Examiner Signature			Date Considered
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			
<small> ¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached. </small>			

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15978147
	Filing Date		2018-05-13
	First Named Inventor	Kates	
	Art Unit	2685	
	Examiner Name	Ojiako K. Nwugo	
	Attorney Docket Number	563800USCON19	

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the 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 the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Matthew Johnson/	Date (YYYY-MM-DD)	2019-03-11
Name/Print	Matthew Johnson	Registration Number	72,299

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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.**

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 the Freedom of Information Act requires disclosure of these records.
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 inspections 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.

Electronic Acknowledgement Receipt	
EFS ID:	35377954
Application Number:	15978147
International Application Number:	
Confirmation Number:	1307
Title of Invention:	Relaying Communications in a Wireless Sensor System
First Named Inventor/Applicant Name:	Lawrence Kates
Customer Number:	149118
Filer:	Michael K. Colby/Todd Richards
Filer Authorized By:	Michael K. Colby
Attorney Docket Number:	563800USCON19
Receipt Date:	11-MAR-2019
Filing Date:	13-MAY-2018
Time Stamp:	11:54:12
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	Information Disclosure Statement (IDS) Form (SB08)	GP-5638-00-US-CON19_Supplemental_IDS.pdf	612279 0b06bcc634822d55c68719b78639541d75d657bb5	no	4
Warnings:					

Information:					
2	Non Patent Literature	15841092NFOA012419.pdf	718993	no	8
			d66c52c760f51741dd960af7f6230bf5d2f1eaae		
Warnings:					
Information:					
Total Files Size (in bytes):				1331272	
<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>					