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UTILITY PATENT APPLICATION TRANSMITTAL <i>(Only for new nonprovisional applications under 37 CFR 1.53(b))</i>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Attorney Docket No.</td> <td>6338.439</td> </tr> <tr> <td>First Named Inventor</td> <td>Dale R. Thornberry</td> </tr> <tr> <td>Title</td> <td>System and Process for Roof Measurement Using Imagery</td> </tr> <tr> <td>Express Mail Label No.</td> <td>Electronically Filed</td> </tr> </table>	Attorney Docket No.	6338.439	First Named Inventor	Dale R. Thornberry	Title	System and Process for Roof Measurement Using Imagery	Express Mail Label No.	Electronically Filed
Attorney Docket No.	6338.439								
First Named Inventor	Dale R. Thornberry								
Title	System and Process for Roof Measurement Using Imagery								
Express Mail Label No.	Electronically Filed								

APPLICATION ELEMENTS <i>See MPEP chapter 600 concerning utility patent application contents.</i> 1. ☐ Fee Transmittal Form (PTO/SB/17 or equivalent) 2. ☐ Applicant asserts small entity status. See 37 CFR 1.27 3. ☐ Applicant certifies micro entity status. See 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent. 4. ☒ Specification [Total Pages <u>38</u>] Both the claims and abstract must start on a new page. (See MPEP § 608.01(a) for information on the preferred arrangement) 5. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets <u>21</u>] 6. Inventor's Oath or Declaration [Total Pages _____] (including substitute statements under 37 CFR 1.64 and assignments serving as an oath or declaration under 37 CFR 1.63(e)) a. ☐ Newly executed (original or copy) b. ☐ A copy from a prior application (37 CFR 1.63(d)) 7. ☒ Application Data Sheet * See note below. See 37 CFR 1.76 (PTO/AIA/14 or equivalent) 8. CD-ROM or CD-R In duplicate, large table, or Computer Program (Appendix) ☐ Landscape Table on CD 9. Nucleotide and/or Amino Acid Sequence Submission (if applicable, Items a. - c. are required) a. ☐ Computer Readable Form (CRF) b. ☐ Specification Sequence Listing on: i. ☐ CD-ROM or CD-R (2 copies); or ii. ☐ Paper c. ☐ Statements verifying identity of above copies	ADDRESS TO: Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450 ACCOMPANYING APPLICATION PAPERS 10. ☐ Assignment Papers (cover sheet & document(s)) Name of Assignee _____ 11. ☐ 37 CFR 3.73(c) Statement (when there is an assignee) ☐ Power of Attorney 12. ☐ English Translation Document (if applicable) 13. ☒ Information Disclosure Statement (PTO/SB/08 or PTO-1449) ☐ Copies of citations attached 14. ☐ Preliminary Amendment 15. ☐ Return Receipt Postcard (MPEP § 503) (Should be specifically itemized) 16. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed) 17. ☐ Nonpublication Request Under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent. 18. ☐ Other: _____
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***Note:** (1) Benefit claims under 37 CFR 1.78 and foreign priority claims under 1.55 must be included in an Application Data Sheet (ADS).
(2) For applications filed under 35 U.S.C. 111, the application must contain an ADS specifying the applicant if the applicant is an assignee, person to whom the inventor is under an obligation to assign, or person who otherwise shows sufficient proprietary interest in the matter. See 37 CFR 1.46(b).

19. CORRESPONDENCE ADDRESS					
☒ The address associated with Customer Number: <u>30589</u> OR ☐ Correspondence address below					
Name	Dunlap Coddling, P.C.				
Address	P.O. Box 16370				
City	Oklahoma City	State	OK	Zip Code	73113
Country	US	Telephone	405-607-8600	Email	mbrockhaus@dunlapcoddling.com
Signature				Date	04/02/2018
Name (Print/Type)	Marc A. Brockhaus			Registration No. (Attorney/Agent)	40923

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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

Pictometry EX2027
Roof v. Pictometry
IPR2023-00435

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	6338.439
		Application Number	
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1					Remove		
Legal Name							
Prefix	Given Name		Middle Name		Family Name		Suffix
	Dale		R.		Thornberry		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service							
City	Carmel		State/Province	IN	Country of Residence	US	
Mailing Address of Inventor:							
Address 1		13890 Wildcat Dr.					
Address 2							
City	Carmel		State/Province	IN			
Postal Code	46033		Country i	US			
Inventor 2					Remove		
Legal Name							
Prefix	Given Name		Middle Name		Family Name		Suffix
	Chris		T.		Thornberry		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service							
City	Indianapolis		State/Province	IN	Country of Residence	US	
Mailing Address of Inventor:							
Address 1		10825 Cyrus Dr.					
Address 2							
City	Indianapolis		State/Province	IN			
Postal Code	46231		Country i	US			
Inventor 3					Remove		
Legal Name							
Prefix	Given Name		Middle Name		Family Name		Suffix
	Mark		F.		Garringer		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service							

Application Data Sheet 37 CFR 1.76		Attorney Docket Number		6338.439	
		Application Number			
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY				
City	Eaton	State/Province	IN	Country of Residence	US
Mailing Address of Inventor:					
Address 1	516 E. South				
Address 2					
City	Eaton	State/Province	IN		
Postal Code	47338	Country	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
☐ An Address is being provided for the correspondence information of this application.			
Customer Number	30589		
Email Address	mbrockhaus@dunlapcoddling.com	Add Email	Remove Email

Application Information:

Title of the Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY		
Attorney Docket Number	6338.439	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	21	Suggested Figure for Publication (if any)	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐ Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6338.439
		Application Number	
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY		

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	30589		

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	15/005977	2016-01-25		
Prior Application Status	Patented		Remove		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15/005977	Continuation of	14/018943	2013-09-05	9244589	2016-01-26
Prior Application Status	Patented		Remove		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14/018943	Continuation of	13/774478	2013-02-22	8542880	2013-09-24
Prior Application Status	Patented		Remove		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13/774478	Continuation of	12/470984	2009-05-22	8401222	2013-03-19

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6338.439
		Application Number	
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY		

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)	Remove Access Code (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	6338.439
		Application Number	
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY		

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	6338.439
		Application Number	
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY		

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.			
Applicant 1			
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.			
Clear			
☒ Assignee		☐ Legal Representative under 35 U.S.C. 117	
☐ Person to whom the inventor is obligated to assign.		☐ Person who shows sufficient proprietary interest	
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:			
Name of the Deceased or Legally Incapacitated Inventor: 			
If the Applicant is an Organization check here. ☒			
Organization Name	Pictometry International Corp.		
Mailing Address Information For Applicant:			
Address 1	25 Methodist Hill Drive		
Address 2			
City	Rochester	State/Province	NY
Country	US	Postal Code	14623
Phone Number		Fax Number	
Email Address			
Additional Applicant Data may be generated within this form by selecting the Add button.			

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6338.439
		Application Number	
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY		

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	Given Name	Middle Name	Family Name	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		State/Province	
Country		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the **INITIAL** filing of the application and either box A or B is **not** checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	<i>Marc Brockhaus</i>		Date (YYYY-MM-DD)	2018-04-02	
First Name	Marc A.	Last Name	Brockhaus	Registration Number	40923

Additional Signature may be generated within this form by selecting the Add button.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6338.439
		Application Number	
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY		

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.**

Filed Electronically on April 2, 2018

SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY

INCORPORATION BY REFERENCE

[001] The present patent application claims priority to and is a continuation of the patent application identified by U.S. Serial No. 15/005,977, filed January 25, 2016, which is a continuation of U.S. Serial No. 14/018,943, filed September 5, 2013, which is a continuation of the patent application identified by U.S. Serial No. 13/774,478, filed February 22, 2013, which is a continuation of the patent application identified by U.S. Serial No. 12/470,984, filed May 22, 2009, all of which the entire contents of which are hereby incorporated herein by reference. The present patent application additionally claims priority to the patent application identified by U.S. Serial No. 13/786,699, filed March 6, 2013, which is a continuation of the patent application identified by U.S. Serial No. 12/470,984, filed May 22, 2009, the entire contents of both of which are hereby incorporated herein by reference.

FIELD OF INVENTION

[002] The present invention is in the field of measuring roofing dimensions and other attributes, and more particularly pertains to the use of aerial imagery in that field.

BACKGROUND

[003] Roof measuring, for example, dimension, length and areas has been done for many years, such as in connection with for estimating and bidding roofing jobs. Also, for many years, companies and products have offered such estimation services and reporting software reports using aerial imagery on which roof line outlines are traced, dimensions and areas are automatically based on those tracings, and vertical elevations (via pitch or otherwise) are included in mathematical models.

[004] The present invention is an improvement on such aerial imagery, systems and processes, providing non-obvious features that enhance convenience, flexibility, and/or accuracy.

SUMMARY

[005] The claims, and only the claims, define the invention. The present invention includes several, but not necessarily all, of creating a first layer and a second layer, in computer memory and substantially overlapping at least a segment of line from said first layer with at least a segment of another line from said second layer, wherein said first non-dimensional attribute is different from said second non-dimensional attribute; and/or an interactive computer file, said interactive computer file including: length numeric values and at least one user length field enabling a client with said interactive file to override at least one of said length numeric values, where said area operator may automatically recalculate area based on said length field override; and/or, providing at least one computer input field for a user to input first location data generally

corresponding to the location of the building; on said imagery of an area providing a visual marker that is moveable on said computer monitor around a region, said marker initially corresponding to said first location data, wherein said marker may be moved to a final location on top of the building to more precisely identify the location of the building roof structure; and providing a computer input capable of signaling user-acceptance of the final location of said marker; and/or other features, optionally combined in various ways as set forth in the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[006] FIG. 1 is one example of a flow chart of acts according to the present invention.

[007] FIG. 2 is another example of a flow chart of acts according to the present invention.

[008] FIG. 3 is another example of a flow chart of acts according to the present invention.

[009] FIG. 4A is one example of a computer screen shot to enter an address.

[0010] FIG. 4B is one example of a computer screen shot depicting imagery and a marker based on an address.

[0011] FIG. 4C is a computer screen shot like FIG. 4B with the marker moved over a selected building.

[0012] FIG. 4D is a computer screen shot and/or reporting confirming selection of a building.

[0013] FIG. 5A is an example of reporting.

- [0014]** FIG. 5B is another example of a screen shot and/or reporting.
- [0015]** FIG. 5C is another example of a screen shot and/or reporting.
- [0016]** FIG. 5D is another example of a screen shot and/or reporting.
- [0017]** FIG. 5E is another example of a screen shot and/or reporting.
- [0018]** FIG. 5F is another example of a screen shot and/or reporting.
- [0019]** FIG. 5G is another example of a screen shot and/or reporting.
- [0020]** FIG. 5H is another example a screen shot and/or of reporting.
- [0021]** FIG. 5I is another example of a screen shot and/or reporting.
- [0022]** FIG. 6 is another example of a screen shot and/or reporting.
- [0023]** FIG. 7A is a top plan view of aerial imagery of a building roof structure.
- [0024]** FIG. 7B is a display of the imagery of FIG. 7A with some optional features.
- [0025]** FIG. 7C depicts the imagery of FIG. 7A with shadowing.
- [0026]** FIG. 7D depicts FIG. 7C with the addition of computer generated line.

BRIEF DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0027] For the purposes of promoting an understanding of the principles of the invention, reference will now be made to the examples, sometimes referred to as embodiments, illustrated and/or described herein. Those are mere examples. It will nevertheless be understood that no limitation of the scope of the invention is thereby intended. Such alterations and further modifications in the described processes, systems or devices, any further applications of the

principles of the invention as described herein, are contemplated as would normally occur to one skilled in the art to which the invention relates, now and/or in the future in light of this document.

[0028] As used in the claims and the specification, the following terms have the following definitions:

[0029] The term "adjustment roof plane" means a roof plane, having at least three border lines, that may be hidden (partially or totally) from view from some or all aerial imagery and which may be included to add to (or subtract from) an aggregate roof area or other attributes.

[0030] The term "aerial imagery" means pictures, normally including photographs (visual light, infrared, color, black and white, or otherwise) taken from an overhead view (straight down, oblique, or otherwise) with respect to a building roof. This may include imagery taken from airplanes, satellites, balloons, or otherwise.

[0031] The term "attributes" means one or more distinguishing or identifying characteristic.

[0032] The term "border line" means a line segment, straight, curved, free form or otherwise that generally corresponds with the edge of a roof plane.

[0033] The term "building" means a real estate structure, such as for example, a house, condominium, office building, outbuilding, garage, warehouse, factory or otherwise.

[0034] The term "client" means a person or entity that orders or obtains an aerial imagery report.

[0035] The term "computer input" means data, information and/or signals provided by a computer user. This may include numbers, words, mouse clicks, "enter", check boxes, dialog boxes, and otherwise.

[0036] The term "computer monitor" includes any computer screen or other visual output, including projectors, flat panel screens, LCD screens, LED screens and otherwise that provide visual output from a computer.

[0037] The term "computer processing means" means computer hardware and software, including computer memory, microprocessors, computer code and computer logic to provide digital computing.

[0038] The term "contrast" means discernable relative differences in lightness and darkness.

[0039] The term "deliverable" means that which is or may be delivered to a client, including printed and/or electronic reports and information.

[0040] The term "digital" means using numeric digits, specifically including binary digits.

[0041] The term "direct proportion" means that one or more variables that change as a function as another value in a generally linear function.

[0042] The term "dissects" means to sub-divide into two or more parts.

[0043] The term "electronic drawing" means to draw lines and/or shapes electronically via computer. This can include pixel-based drawings, vector-based drawings, and/or otherwise.

[0044] The term "field" means a location for computer data input and/or output of a value having at least one corresponding associated place in computer memory.

[0045] The term "final location" is the relative spot for placing a marker. This normally corresponds to unique latitude and longitude coordinates.

[0046] The term "generating" means to make or create.

[0047] The term "imagery database" means a computer database containing aerial imagery computer files and the associated location coordinates.

[0048] The term "interactive computer file" is a computer file in which a user may input and/or override one or more numeric values stored in memory as part of the file.

[0049] The term "internet-based imagery" means imagery, such as aerial imagery, which is accessible through an internet access connection. One popular example is Google® Earth.

[0050] The term "latitude and longitude coordinates" mean numeric coordinates for a location on the planet corresponding to latitude (east, west) and longitude (north, south).

[0051] The term "layer" means a part of a graphic computer file that visually overlays one or more other parts and which has at least partially transparent portions allowing visualizations of parts/layers below it.

[0052] The term "lines" means a straight, curved, and/or free form segment.

[0053] The term "location data" means information which uniquely identifies geographic position. This may include latitude and longitude coordinates, street addresses and/or otherwise.

[0054] The term "non-dimensional attribute" means an attribute other than a numeric value, such as other than length, width, height, or area.

[0055] The term "numeric values" means alphanumeric numbers, and/or their binary equivalent.

[0056] The term "operator" means a mathematical function including, but not limited to multiplication, division, addition, subtraction, sum, average, square root and/or the foregoing with or without constant and/or co-efficient.

[0057] The term "orientation" means the direction of something with respect to something else.

[0058] The term "outline" means the path or collection of lines generally coinciding with the outside of a shape.

[0059] The term "outline drawing" means drawing of lines around an outline.

[0060] The term "over said imagery" means position on top of and in alignment with underlying Imagery.

[0061] The term "override" means to substitute or replace one value for another value. This may be done with numeric values, non-dimensional attributes and otherwise.

[0062] The term "perimeter lines" means a line or lines that outline the outer most edge of a roof structure. This can include, but is not limited to, a roof free edge with a gutter and to a roof free edge without a gutter.

[0063] The term "pitch numeric value" is a single numeric value corresponding to the pitch or slope of a portion of roofing.

[0064] The term "proportioning" means to increase or decrease the size of a line, outline or other object to directly proportional to the change in another object.

[0065] The term "region" means a location on earth that is depicted in aerial imagery. Ordinarily, it will include at least one entire building structure, and preferably, will include at least some features, such as streets, trees, or other buildings adjacent the building structure.

[0066] The term "report" means one or more pages or screen shots, or both, made available to a user including aerial imagery and/or data from such imagery. This includes, but is not limited to, one or more interactive computer files.

[0067] The term "roof flashing edge" means an edge where roofing meets with a generally vertical structure, such as a wall, typically with flashing.

[0068] The term "roof free edge with a gutter" means the unbound edge of a roof with a rain drainage gutter.

[0069] The term "roof free edge without a gutter" means the unbound edge of a roof without a rain drainage gutter.

[0070] The term "roof hip" means an edge where two roof planes meet to form a generally upward sloping ridge.

[0071] The term "roof pitch" means the slope of a roof plane. It may be expressed in angles, ratios, or otherwise. This includes stating the rise over run, as well as stating merely the rise in view of an assumed or industry standard run. For example, a slope of 6 inch rise for every 12 inch run (horizontal") may be stated to be a "6" pitch.

[0072] The term "roof plane" means a generally planer, segment of a roof.

[0073] The term "roof ridge" means an edge where two generally upward sloping roof planes meet.

[0074] The term "roof structure" means the top of a building which shelters the building from weather.

[0075] The term "roof valley" means an edge where two generally downward sloping roof planes meet.

[0076] The term "street address data" means the location typically used by postal identification, typically including at least one numeric value and at least one street name, and further typically including a zip code or other postal code and/or a town and state or province.

[0077] The term "street address look up field" means a computer field for entry of street address data.

[0078] The term "substantially overlapping" means that where one line, in whole or in substantial part, coincides with another line in terms of direction and

overlap. This may include situations where the respective lines are of substantially different length, or not.

[0079] The term "substituent triangles" means two or more congruent triangles which collectively form a subset of another geometric shape.

[0080] The term "tracing" means drawing around an outline or along a line or feature depicted in Imagery.

[0081] The term "user-acceptance" means an affirmative step or series of steps or computer input, undertaken by user to make a selection.

[0082] The term "vector direction" means, in relative space, either two dimensionally or three dimensionally where a vector is pointing.

[0083] The term "visual marker" is a shape, pointer, label, icon, avatar or other indicator which is movable or displayable on a computer screen and which may be visually differentiated from other objects on the computer screen.

[0084] The term "visually depicting" means to show or illustrate something on a computer monitor as a graphical image.

[0085] Articles and phases such as, "the", "a", "an", "at least one", and "a first", are not limited to mean only one, but rather are inclusive and open ended to also include, optionally, two or more of such elements.

[0086] The language used in the claims is to only have its plain and ordinary meaning, except as explicitly defined above. Such plain and ordinary meaning is inclusive of all consistent dictionary definitions from the most recently published Webster's dictionaries and Random House dictionaries.

[0087] Referring to the drawing figures, these are only examples of the invention, and the invention is not limited to what is shown in the drawings.

DETAILED DESCRIPTION OF THE DRAWINGS

[0088] Referring to FIG. 1, a process for determining attributes of a roof structure 501 (see FIGS. 4B, 4C) of a real-world three-dimensional building 500 may optionally comprise several acts. This may include viewing on a computer monitor 100 in digital aerial imagery 1 of a region 502 (see FIGS. 4B, 4C) including the roof structure 501. Ordinarily, the roof structure will have one or more roof planes, and unless the roof is a simple single-plane roof, will have at least two or more roof planes. In FIG. 1, the act of creating of a first layer drawing 2 is undertaken. Such act may be used by the ultimate end-user enabled by the software, but optionally and more preferably is done by a commercial vendor based on an order placed by a user. Such order may be placed by telephone, on-line, such as on computer screen 100 as shown in FIGS. 4A-4D, by mail, email or otherwise.

[0089] The creation of the first line drawing 2 may be done a multitude of ways, in one example is illustrated in FIGS. 5A-5I and FIG. 6, discussed further below. Likewise, in FIG. 1 creating a second layer drawing 3 is another act. For example, in FIG. 5D, various roof planes are denoted by letters A-P. For example, the roof plane 515 denoted by the letter "O" may be drawn in a second layer, whereas roof plane 516 indicated by the letter "D" may be in a first layer. In such example, roof plane 515 and roof plane 516 have substantially overlapping segments 4 (see FIG. 1). For example, along the upper edge of plane 515

appears the number "5" denoting a five foot line; whereas, plane 516 has the substantially overlapping line denoted by "7" indicating a seven foot line segment of roof plane 516. Such seven foot roof segment of plane 516 may comprise a perimeter line (part of the 56.78 feet perimeter length of plane D depicted in table 520 of report 550 of FIG. 5I); whereas, the substantially overlapping five foot length of plane 515 may comprise a second non-dimensional attribute, namely flashing, such as step flashing line (part of the 37.01 feet of step flashing for plane O depicted in table 521 of FIG. 5I). Accordingly, this is one example of substantially overlapping lines such as segment of line A and segment of line E set forth in the claims, each having respective first and second non-dimensional attributes. This allows for separate reporting of such non-dimensional attributes, such as the length of perimeter, the length of step flashing or otherwise. Such non-dimensional attributes may be of any type. As mere examples that have use in the roofing industry include the non-dimensional attributes of roof ridge, roof hip, roof valley, roof flashing edge, perimeter line, roof free edge with a gutter, and roof free edge without a gutter. For example, line 510a in FIG. 6 is an example of a roof ridge, whereas line 511a and line 513a are each examples of a roof valley. Line 512a in FIG. 6 is an example of a perimeter edge, which also happens to comprise a roof free edge without a gutter. Optionally, while not illustrated, if line 512a had, or were to have, a gutter along it, then it would be in that case a perimeter line and be a roof free edge with a gutter. FIG. 6. also depicts an optional table and/or fields showing the non-dimensional attributes at 507 and the total values for them at 508. This can include the area of roofing

509, the linear ridge feet 510, linear valley feet 511, starter/perimeter linear feet 512, step flashing 513, and/or others.

[0090] Another optional feature is computer processing means for calculating a vector direction corresponding to roof pitch for a roof plane. Optionally, this may be based on at least one of said non-dimensional attributes of roof plane outline lines and their orientation. Such computer processing means typically includes computer logic and/or code with a set of rules to establish such vector. Examples of such vector are shown in FIG. 5E. Specifically, they are preferably shown as arrows. In the illustrated example, they are ordinarily indicated as arrows pointing in the downward direction, corresponding to the downward direction of rain flow. Optionally, there may be other illustrations, including an upwardly directed arrow, although this is not preferred. For example, vector 516d is shown in a downwardly directed arrow with a number 6 next to it. This depicts the vector corresponding roof plane 516, namely plane D previously discussed. As seen, the value "6" for the pitch is entered at field 516c in the table also showing the area (for that particular roof plane D at field 516a) 357.93 sq. ft. as shown at field 516b. Note further with respect to roof plane 515 (plane "O") as illustrated in the table at field 515a, it likewise has a roof pitch of "6" shown at 515c. The total area of roof plane "O" is 111.35 sq. ft. in this particular example, as shown at 515b.

[0091] An example of computer programming to determine pitch direction is as follows.

[0092] 1.) Pitch will run towards a perimeter line. If only one perimeter line pitch goes towards the perimeter (most standard roofs, all but the ends of hips);

[0093] 2.) If there are multiple perimeters that are not parallel, look for ridge. If there is only a single ridge line and it is parallel to one of the perimeter lines, pitch runs from the ridge towards the perimeter. (Perimeters that are not straight and have small outcroppings where the roof extends further down the same slope).

[0094] 3.) If a shape has no multiple perimeters and multiple ridges where none are parallel, take an average of the ridge angles and see if that direction is perpendicular to a perimeter line. If so, that direction is the direction of the pitch. (The end of hip roofs).

[0095] Most planes are resolved by the above acts, 2 and/or 3. Acts 4 and 5, below, are also optional but preferred, and address totally enclosed roof planes which most standard roofs do not have.

[0096] 4.) If there are no perimeter lines and a single ridge line, the pitch is from the ridge.

[0097] 5.) If there are no perimeter lines and multiple ridge lines, once finding the pitch for all other shapes look at the ridges and the shared shapes. If the shared shape has a pitch directly away (is perpendicular) from the shared ridge, use that ridge as if it were 2 (from above). If the other pitch goes at an angle to the ridge, look at other ridges.

[0098] The case where you can make it past act 5 and not have pitch direction is for completely enclosed shapes where all sides are valleys at the intersection of multiple planes, set forth in this optional act:

[0099] 6.) take the average slope of all other planes connected via shared lines and average the slope direction of the planes, whose pitch runs into the plane in question; use that direction as the pitch direction for the plane.

[00100] Variations on that logic, including changing the order, and/or combining or splitting acts, may optionally be used. For example, rather than beginning with logic looking to run pitch towards a perimeter, the logic could begin to look to first run the pitch vector away from a ridge line, although this is less preferred.

[00101] As illustrated in report 550 as seen in FIG. 5E, the visual depiction of pitch vectors, such as 516d may help visualize the shape, orientation, pitches of the roof structure and/or roof planes.

[00102] Optionally, one or more deliverables to the client include one or more reports such as report 550. Report 550 may include one or more of the features as depicted in the various drawings of FIGS. 5A-5I and/or FIG. 6 and/or FIGS 7A-7D, alone or combination.

[00103] Optionally, such report may be printed on a piece of paper, or provided on a non-interactive computer file such as a .pdf (Adobe® Acrobat®) type image or otherwise, illustrated on a computer screen for the user to print out (web based or otherwise) and/or delivered on recordable media such USB drive, floppy disk, CD, DVD, email attachment or otherwise. However, preferably, such

file is delivered as an interactive computer file. For example, referring again to FIG. 5E, the pitch value as shown in the table, such as the 6 pitch for plane D and 516c allows the person, the end-user or otherwise, to enter at least one pitch numeric value. This pitch numeric value may correspond to roof pitch of the roof plane. Hence, in FIG. 5E, one or more of the pitch values in computer fields corresponding to the table, may be empty or null. They may allow a person, such as an end user, to data input via their computer, the pitch value. For example, this may be based on the end user, or one of their agents, taking field measurements of the roof to provide the input. As such, value 516c may be entered to be "6" corresponding to a 6 pitch (e.g., 6" vertical rise for every 12" of horizontal run). Such value "6" may be changed, updated, or overridden.

[00104] As can be appreciated in three-dimensional geometry, given the shape of plane D (516) the value of the pitch ordinarily will affect the overall area of such roofing (see e.g. FIG. 5F, area value 516b).

[00105] Mathematical equations demonstrating-area relationship for a sloped, rectangular roof plane are known, an example of which is set forth below:

$$\text{Area} = W \times Z$$

$$Z = \text{square root of: } (X^2 + Y^2)$$

Where:

W = width

X = horizontal run

Y = vertical rise

Z = hypotenuse of X-Y-Z right triangle.

[00106] Other, geometries may be calculated using known math, coefficients and/or tables. See for example: *Miller, Mark; Miller's Guide to Roofing* (2005) ISBN 0-07-145144-7. Thus, in combination with the perimeter measurements supplied with the report based on the creation of roof plane D from the imagery, the addition of the roof pitch value may lead to the calculation such as in the example 357.93 sq. ft. shown at 516b. Likewise, for plane O, the value of "6" may be entered in the table at 515c to arrive at the area calculation 515b as previously described. It should be appreciated, that optionally these pitch values may be provided by the end user or other persons based on field measurement. However, optionally, they also may be based on measurements and/or computer calculations precisely, by estimate or otherwise, such as by viewing oblique imagery such as region image 502 shown in FIG. 4B. In such case, for example, a vendor may provide default values (and/or absolute values) for the pitch and the table shown at FIG. 5E. In an interactive computer file with such fields being interactive, and with operators to calculate area taking into account pitch, preferably part of said file, even with such default values based on oblique imagery the end user would be free to override them, such as for example if they determine that field measurements indicate a different pitch.

[00107] Another optional feature may include other attributes deliverable to the client including an interactive computer file. For example, the length values of lines forming an outline of a drawing may be overridden. For example, referring again to FIG. 5D, a reference line 514 is depicted. In this one example, it is depicted in the parenthetical quote ("R"), although this is not required. In such

case, it is denoted "26" corresponding to 26 ft. in length. Note that all dimensions in this case may be converted to or express in metric, rather than English units, although for purpose of illustration English dimensions are utilized here.

[00108] In such case, even though the referenced dimension 26 is based on scaling that line off of the imagery, such as imagery 506 (see FIG. 6; FIG. 5C) there is an opportunity for greater precision. Such interactive computer file, for example, in the report page shown at FIG. 5D, the value 26 depicted there in connection with the reference may actually be the location of a data entry field. In such case, the field operator may determine that the precise measurements are not 26 feet, but rather are 26.15 feet. In such case, the user operator may enter in their computer by typing in the value "26.15" the reference line field, thereby overriding it from 26 to 26.15 in this hypothetical. In such case, the interactive computer file may use co-efficient and other ratios to proportion (by multiplication or otherwise) some, or preferably, each of the other lines of an outline in direct proportion to the plane field override. While the foregoing is mentioned in terms of the referenced mentioned 514, optionally the interactive computer file may provide multiple reference directions and/or all line values in their report may, optionally, be interactive and override fields. As mere examples, in FIG. 5D this could include fields for 510a, 511a, 512a and/or otherwise, including without limitation most or all numeric values.

[00109] Moreover, while not illustrated, optional report 550 may include a separate table and/or field entry point apart from the drawing of the building roof

structure 501 in which the reference line may be overridden instead or, or in addition to, fields directly overlying the aerial imagery and/or the drawn lines.

[00110] Optionally, but preferably, in addition to the length of the other lines being proportionally recalculated, likewise the area values, such as depicted in the area column of the table at FIG. 5E as well as the area values on FIG. 5F and/or FIG. 6 (see the total roofing area value 509 of 4096.95 sq. ft. may be automatically recalculated. This may be done in a separate application, in the interactive computer file (including with embedded operators), both or otherwise.

[00111] Various area calculations used in connection with computer data processing means are available based on known geometry. These could include things as simple as multiplying length times width of a single rectangle. They also may include modifying such area to take into account the additional area generated by pitch, as previously discussed. However, while not limited to this, preferably, taking advantage of the pixilated imagery that may be used, one optional feature in determining one or more areas of the respective roof planes is as follows. If you know the points (corners) of the shape and can order them in a clockwise (or optionally, counter-clockwise) fashion following the perimeter or outline of the shape, then the following algorithm can apply. Starting at the first endpoint, 0 (zero), while $N+1$ is less than the total ordered end points take the triangle made by the 3 points 0, N , and $N+1$ and compute the area of the triangle created, which is done by the dot product method using vectors created by going from 0 to N and 0 to $N+1$. Add this area to a running sum.

[00112] Note that when the three ordered endpoints are not in the proper order (they create a convex perimeter or outline of the shape that reduces the overall area as opposed to adding to), the dot product method of finding the area will return a (-) negative area which subtracts from the overall area in the running sum.

[00113] Dot product (2-Dimensional Vectors) can be expressed in the equation:

$$UV = U_1V_1 + U_2V_2$$

[00114] This can be used to find the area of the square that the two vectors produce. Dividing the result by two (2) gives the area of the triangle the two vectors produce.

[00115] Thus, in this way an example is provided of computer data processing means that dissects the outlines of the roof planes into substituent triangles and calculates the area of such triangles. The areas are aggregated to provide the area of respective roof planes, and the areas of such respective roof planes may in turn be aggregated (summed) to arrive at the total area of the roof structure. Examples of this are shown in the table in FIG. 5F and/or table 517 in FIG. 5H. Note also in FIG. 5H the report 550 may also include other tables and information, such as ridge length table 518 and/or valley length table 519.

[00116] Hence, in FIG. 2, aerial imagery 1 is used and perimeter drawings around roof planes are acts. Thereafter, one or more interactive computer files are delivered 6. The user may enter values in the interactive computer file 7,

such as pitch, length, or otherwise as discussed. This may result in the act of updating the report 8.

[00117] Another optional feature is to provide for user acceptance of the final location of a roof structure. One optional way to do this is to provide an internet based interface for the customer/user. One example of such is shown in FIGS. 4A-4D. For example, in FIG. 4A, computer screen 100 provides a place to enter an address, such as field 102 for address entry (denoted by label 101). In the illustrated example, the street address "1710 Strand Ave, Tybee Island, GA. 31328" may be entered in field 102 of the computer. The user may enter by clicking or otherwise button 103 to find that address. In response, computer screen 100 may appear like FIG. 4B. As such, it may depict imagery 502 of a region, the region including building 500 with its roof structure 501. Ordinarily, this includes not only the building structure 500, but also depicts adjacent buildings, trees, streets, and/or other features. Such imagery may come from a variety of places. One example could be Google® Earth imagery database which is web based and provides address location information. Such imagery covers much of the world, although it may or may not be comparatively low resolution imagery. In FIG. 4B, marker 106a is shown in the region 502, corresponding to the street address in field 102. Note further that while marker 106a is close to roof structure 501, it does not directly or perfectly correspond to roof structure 501. As such, the customer or other user may be allowed to move the marker (by click and dragging via computer mouse, arrows, or otherwise) to a final location 106b as depicted in FIG. 4C. Such final location is on top of the building 500 and

such movement more precisely identifies the location of the building roof structure 501 to be measured. Optionally, in FIG. 4C when said marker has been moved to final location 106b, the user may activate a selection confirmation, such as confirm selection button 104, enter, checkbox or otherwise. Optionally, to potentially start over the user may be afforded the option of hitting the cancel button 105 or merely logging off. However, if confirmed selection button 104 or other such user acceptance is activated, another screen (and/or report) optionally may be provided, such as screen 100 as depicted in FIG. 4D. While this may be a wide variety in the formats, in the one example provided, some or all of the regional image 502a may be depicted showing the marker in its final location 106b. Also, a checkbox may be providing a further reconfirmation that the users reviewed the image is correct. In this way, the end user/customer will be sure that when placing an order, the vendor is measuring the correct roof structure as opposed to, for example, measuring the nearby roof structure due to mistake/miscommunication. Optionally, as shown in FIG. 4D, fields may depict the address to be measured 108, the city 109, the state 110, the postal code 111, and otherwise. Optionally, a drop down box 112 may be provided corresponding to the number of planes ordered. Additionally, other options, such as rush processing 113 or other special features may be provided. Also optionally, a reference number or other such job number field 114 or claim number field 115 and/or other fields may be available. Thus, for example, a roofer having a job number and/or bidding pursuant to an insurance claim number and/or an insurance company doing the same may optionally enter data therein. When they

do so, optionally, such reference numbers and/or claim numbers may be reprinted or otherwise depicted on the deliverables to the client, such as report 550. This provides convenience to the end user/customer in that they may cross reference their deliverable report to their internal calendaring, docketing, invoicing, and/or job number system.

[00118] Also with reference to FIG. 4D, computer screen 100 and/or the reports may also depict latitude references and/or longitude references corresponding to the street address and/or more precisely to the final location 106b of the marker confirmed by the end user. Again, optionally, such latitude and longitude coordinates may be reflected in one or more of the reports.

[00119] Such translation to latitude and longitude coordinates also provides another optional feature. The present system and method may optionally include two or more separate imagery databases. For example, a lower resolution and/or less expensive image database such Google® Earth may be used as a first database, whereas a higher quality, higher resolution and/or more robust image database, such as by Pictometry International (as depicted here) may be used. Other vendors of imagery databases may be used and/or one may use their own image database(s). Thus, by translating the street address stated in longitude and latitude, it is easier to correlate to the second database. In this way, first imagery database from which the final location is selected may be internet based imagery having to corresponding street address look up field. Only further using the latitude and longitude coordinates to access imagery from a second imagery database, such as for example Pictometry's database. Thereafter, using the

imagery from the second database can generate in computer memory outline drawings around outlines corresponding to roof planes based on tracing from imagery from said second imagery database. Such outline drawings may include drawings such as depicted in FIGS. 5D, 5E, 5F, 5G and/or FIG. 6 and/or 7B-D for example. Additionally, since the first imagery database may merely be straight down, or plan views, whereas the second imagery may include a variety of oblique images, such as image 502 and 503 in FIG. 5A and/or oblique imagery 504 and 505 in FIG. 5B, as well as diagonal, top down imagery such as image 506 in FIG. 5C. This allows the optional, more complete image reporting to the client in report 550.

[00120] Such oblique imagery also permits the optional feature, as previously discussed, determining vertical measurements and/or roof pitches based on the imagery, as opposed to based on field measurements. Conversely, one can undertake this without any oblique imagery and/or any determination of vertical measurements or pitch, and instead rely on field measurements or other means for pitch.

[00121] In FIG. 3, the location data 4A is entered. Aerial imagery with a marker is provided 4B. A person moves the marker on the image of the building 4C. User acceptance of that marker position is then signaled 104a.

[00122] Mere examples of other optional features are depicted in FIG. 7A and 7B. A simplified diagrammatic image of building 700 includes roof structure 701. While several roof planes are illustrated, the particular focus is directed to roof planes 715 and 716. As illustrated in FIG. 7B, a first electronic drawing

(preferably in a first layer of the drawing) is made over the imagery comprising lines A, B and C. Moreover, a second electronic drawing (preferably, but not necessarily, in a second layer of the drawing) is made over to imagery comprising lines E, F, G and H. Note that in this illustrated example, at least a segment of line A is substantially overlapping with at least a segment of line E. Thus, for example, roof plane 715 outlined by E, F, G and H may comprise a flat roof (0 pitch) porch whereas the remainder of the roof structure 701 may comprise a hip roof over a rectangular house, the hip roof being depicted in a plan view with two triangles and two isosceles rhombuses, as shown.

[00123] Note further that FIG. 7B preferably is depiction of a deliverable, such as a report (and/or a screen shot), and optionally and more preferably is part of an interactive computer file. In this regard, it may include, optionally, table 720 and/or 721, as well as any of the other tables and/or fields and/or features previously depicted in the previous drawings. For example, table 721 includes at least columns with a line and a column for the attribute, which preferably in this context is the non-dimensional attribute. Note in the example of these substantially overlapping lines A and E, A has the attribute of being a gutter free edge, whereas E has the attribute label "common".

[00124] In this regard, the label "common" also corresponds to Line E' in connection with roof plane 717' illustrated in isolation as roof plane 717. Other terms may be used instead of "common", but this indication denotes two lines that are substantially overlapping and in which the main purpose of the line is merely for dissecting a common roof plane, normally for determining square feet

area, as opposed to a non-dimensional attribute. This is because such "common" lines, in a sense, are imaginary between roof plane 715 and roof plane 717' and/or 717. Alternatively, in the context of this building the attribute of line E could be "flashing" (instead of line Y being flashing) based on the reasonable assumption that this flat planed porch roof abuts the side of the building and has roof flashing along line Y. However, in such situation by denoting line E as flashing, in lieu of line Y, since they are of common length, this is merely a substitute for the total linear estimate of flashing of the type illustrated, for example at 513 (FIG. 6) and/or table 521 (FIG. 5I).

[00125] Plane 716 illustrates a minimum number of three lines, A, B and C, to denote the area of plane 716. Conversely, note that plane 715 includes not only three lines, lines E, F and G, but also a fourth line, line H since it is rectilinear. This is consistent with the claiming of the present invention being open-ended in that at least three lines are required to define a roof plane, but it may be more. Likewise, a plane may be defined by 5, 6, 7 or more lines depending on its particular geometry.

[00126] As mentioned, it is not required, but is preferable that the lines defining the respective plane 715 and 716 are separate from each other, and even more preferable that they be in separate computer file layers overlaying one another. This helps facilitate having differing attributes along a common line as previously described in connection with the substantial overlap of lines A and E. Optionally, in the report the lines may be shown in different colors (and/or patterns) designated for each non-dimensional attribute.

[00127] Moreover, one or more additional adjustment planes, such as adjustment plane 717 prime, also depicted as free standing adjustment plane 717 may optionally be provided. This allows generating computer memory at least one adjustment roofing plane, such as by drawing lines E', X, Y and Z (as well as others). This is useful for a variety of situations, such as, for example, to adjust for portions of the roof structure which are not fully visible from the aerial imagery. This is shown in FIG. 7A and 7B in that due to the overhanging eave of the hip roof of the house in plane 716, part of the porch's roof structure is hidden by the overhanging roof hang. This hidden portion is depicted by roof plane 717' and/or 717.

[00128] It should also be noted that optionally, this adjustment plane does not necessarily have to be graphically depicted, as shown in FIG. 7B. Rather, or in addition, an additional numeric field may be provided. For example, in FIG. 5F, the planes A-P are shown with their respective areas, and in some total of such areas. In this context, with or without a graphical depiction, an additional "plane" row may be provided denoted "adjustment" or otherwise with a numeric field allowing user entry of an area (square foot or otherwise) number be typed in or otherwise imported. Thus, the adjustment plane 717 (FIG. 7B) even if not graphically depicted, might have known dimensions of, for example, 20 feet wide, with a two foot pitch overhand, resulting in an additional 40 feet of area. In this situation, in the adjustment field the user might simply enter the value "40" in square footage terms for the adjustment field. This adjustment field will be added to the sum total, such as shown in the table of FIG. 5E. Note also that the

adjustment value may be negative for a variety of reasons, given the user the ability to override and reduce the total estimation of square footage for reasons of discounting, or other circumstances.

[00129] Thus, for example, in FIG. 7B at table 721, it is denoted in that table as plane 717 with corresponding area of 40 square feet may correspond to a report that it is 20 feet wide (line E prime times 2 feet deep under the eaves, lines X and/or Z, thereby resulting in the calculation of 40 square feet. Or, as described above, alternatively with or without graphic depiction of plane 717, the user might simply enter the value "40" square feet in the area field of table 721.

[00130] FIG. 7C and 7D, using the same structure of 7A and 7B, illustrates another feature which is optional, and may be used alone, or in connection with one or more of the features previously described. In particular, it provides for a computer data processing means that identifies light and dark contrast between adjacent roof planes, such as roof planes 716 and 718, and based on that automatically generates at least one border line, such as for example line 719 shown in FIG. 7D between such roof plane 716 and 718. In this regard, note that as illustrated in FIG. 7C and 7D, roof plane 716 is shown as shaded. This represented in imagery of shadowing, typically caused by sun or other lighting casting different degrees of shadow in brightness and darkness depending on the orientation of the roof plane with the source of the light. The generation of various lines, such as line 719, is automatically computer generated. This may be done by a variety of techniques borrowed from the separate field of computer face recognition used in connection with digital images such as for security

purposes. This may be done to create some or all of the line values, or more preferably at least starting point default lines drawing by the computer. However, optionally the default generation of the lines can be done after perimeter lines P, around the entire outer perimeter of the roof structure 701, having drawn ordinarily by a human user. This has the advantage of establishing a closed, finite area within the region for which the computer software automatically generates one or more of the lines separating the geometries of the separate roof planes. Preferably, this is done by generating and labeling discreet lines which may be overridden by the user, such as deleting extraneous or erroneous or duplicative lines and/or moving them. Moreover, optionally such lines may be generated as the subparts of geometric shapes set as presumptive default shapes common in roof planes. This normally would include rectangles, triangles and rhombuses.

[00131] Additionally, such automatic and/or default generation of lines may optionally be coupled with the previously described pitch generation algorithms. In this way, default pitches may be generated by the computer and depicted in the report output. Again, this can be overridden by the user, including the vendor of such report information.

[00132] Note also that in FIG. 7A-7D, the various lettered lines (A, B, C, E, F, G, H), are illustrated here slightly offset from the actual underlying line in the building imagery. In practice, preferably so as to maximize accuracy, there is not such offset. Rather, the offset is depicted here in FIG. 7A-D merely for drawing

clarity to separately depict the line in the aerial image from the computer drawn line overlaying the image.

[00133] Another optional feature is that the information, including reporting, may be made to interface electronically (and/or manually) with other products. For example, the information provided here may be uploaded or transferred to Xactimate™ Insurance estimating software known in the prior art. Naturally, this feature, while helpful, is not required.

What is claimed:

1. A process, comprising:

receiving first location data;

providing visual access to a first image corresponding to the first location data, the first image including a roof structure of a building at a first resolution;

providing a first computer input capable of signaling a designation from a user of a building roof structure location within the first image, wherein the building roof structure location is a geographic position of the building roof structure and is different than the first location data;

receive a designation of the building roof structure within the first image;

responsive to receiving the designation of the building roof structure location, providing a second computer input capable of signaling user-acceptance of the building roof structure location within the first image, wherein user-acceptance is one or more affirmative steps undertaken by the user to confirm the designation of the building roof structure location; and

responsive to receiving the user-acceptance confirming the designation of the building roof structure location, providing visual access to one or more second image corresponding to geographic location coordinates of the building roof structure location, the one or more

second image having a second resolution of the building that is higher resolution than the first resolution.

2. The process of claim 1, further comprising providing visual access to one or more outline drawing corresponding to the roof structure of the building.
3. The process of claim 2, further comprising providing one or more length dimension on the outline drawing.
4. The process of claim 3, wherein the length dimension is one or more of a perimeter of the roof structure, a length of a ridge of the roof structure, a total length of ridges of the roof structure, a length of a valley of the roof structure, a total length of valleys of the roof structure, a length of a flashing of the roof structure, and a total length of flashings of the roof structure.
5. The process of claim 2, further comprising providing one or more area dimension on the outline drawing.
6. The process of claim 2, further comprising providing one or more pitch dimension on the outline drawing.
7. The process of claim 2, further comprising providing one or more indicator of pitch direction on the outline drawing.

8. The process of claim 2, further comprising providing one or more non-dimensional attribute of the roof structure on the outline drawing.

9. The process of claim 2, further comprising, providing visual access to a nadir image from an imagery database corresponding to location coordinates of the building roof structure location, and wherein the outline drawing is super-imposed on the nadir image.

10. The process of claim 1, wherein the first image is taken from an overhead view with respect to the roof structure of the building.

11. A non-transitory computer memory storing computer logic, that when executed by computer hardware causes the computer hardware to:

receive first location data generally corresponding to a geographic location of a building;

provide visual access to a first image corresponding to the first location data, the first image including a roof structure of the building at a first resolution;

provide a first computer input capable of signaling a designation from a user of a building roof structure location within the first image, wherein the building roof structure location is a geographic position

of the building roof structure and is different than the first location data;

receive the designation of the building roof structure location;

responsive to receiving the designation of the building roof structure location, provide a second computer input capable of signaling user-acceptance of the building roof structure location within the first image, wherein user-acceptance is one or more affirmative steps undertaken by the user to confirm the designation of the building roof structure location; and

responsive to receiving the user-acceptance confirming the designation of the building roof structure location, provide visual access to one or more second image corresponding to geographic location coordinates of the building roof structure location, the one or more second image having a second resolution of the building that is higher resolution than the first resolution.

12. The non-transitory computer memory of claim 11, wherein said computer logic when executed by computer hardware causes the computer hardware to: provide visual access to one or more outline drawing corresponding to the roof structure of the building.

13. The non-transitory computer memory of claim 12, wherein said computer logic when executed by computer hardware causes the computer hardware to: provide at least one length dimension on the outline drawing.

14. The non-transitory computer memory of claim 12, wherein said computer logic when executed by computer hardware causes the computer hardware to: provide visual access to a nadir image of an imagery database corresponding to location coordinates of the building roof structure location, and wherein the outline drawing is super-imposed on the nadir image.

15. The non-transitory computer memory of claim 12, wherein said computer logic when executed by computer hardware causes the computer hardware to: provide one or more area dimension on the outline drawing.

16. The non-transitory computer memory of claim 11, wherein the first image is taken from an overhead view with respect to the roof of the building.

17. A method, comprising:

receiving, by a user, visual access to a first image of a region corresponding to first location data, the first image including a roof structure of a building at a first resolution;

signaling, by the user, a designation from the user of a building roof structure location within the first image, wherein the building roof

structure location is a geographic position of the building roof structure and is different than the first location data;

signaling, by the user, user-acceptance of the building roof structure location within the first image, wherein user-acceptance is one or more affirmative steps undertaken by the user to confirm the designation of the building roof structure location; and

responsive to signaling the user-acceptance confirming the designation of the building roof structure location, receiving visual access to one or more second image corresponding to geographic location coordinates of the building roof structure location, the one or more second image having a second resolution of the building that is higher resolution than the first resolution; and

repairing or constructing a roof designated by the building roof structure location.

18. The method of claim 17, further comprising:

responsive to signaling the user-acceptance confirming the designation of the building roof structure location, receiving a roof report derived at least in part from the one or more second images.

19. The method of claim 18, wherein repairing or constructing the roof designated by the building roof structure location includes repairing or

constructing the roof designated by the building roof structure location based at least in part on the roof report.

ABSTRACT

The present disclosure describes systems and processes, including processes in which first location data is received. Visual access to a first image corresponding to the first location data is provided, the first image including a roof structure of a building. A first computer input capable of signaling a designation from the user of a building roof structure location within the first image is provided. A designation of the building roof structure location within the first image is received. Responsive to receiving the designation of the building roof structure location, a second computer input capable of signaling user-acceptance of the building roof structure location within the first image is provided. Responsive to receiving the user-acceptance confirming the designation of the building roof structure location, visual access to one or more second images corresponding to geographic location coordinates of the building roof structure location is provided.

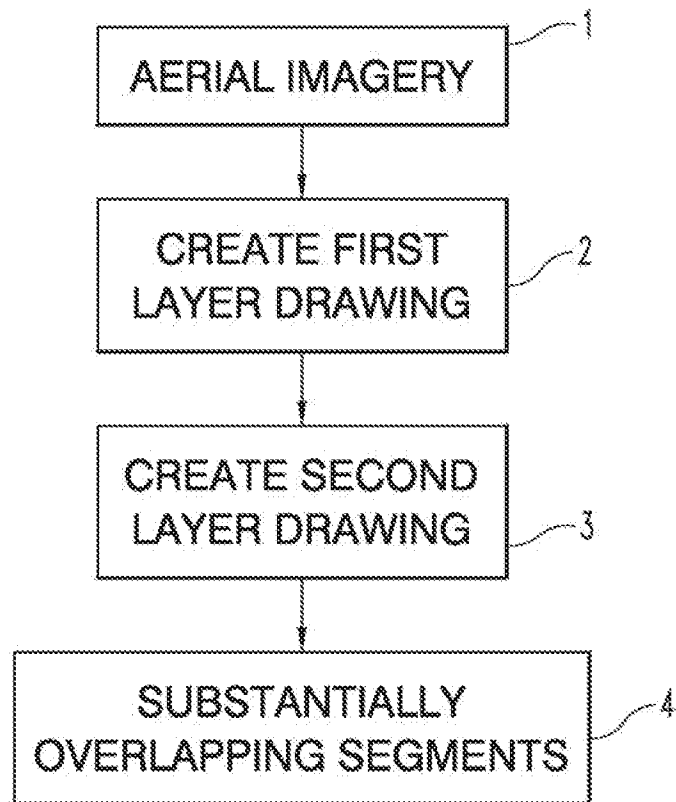


Fig. 1

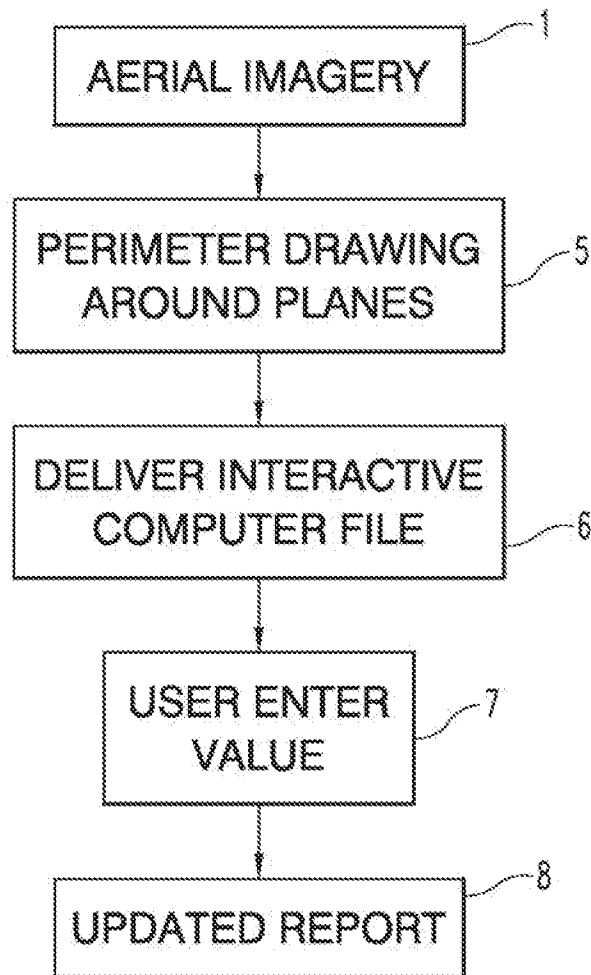


Fig. 2

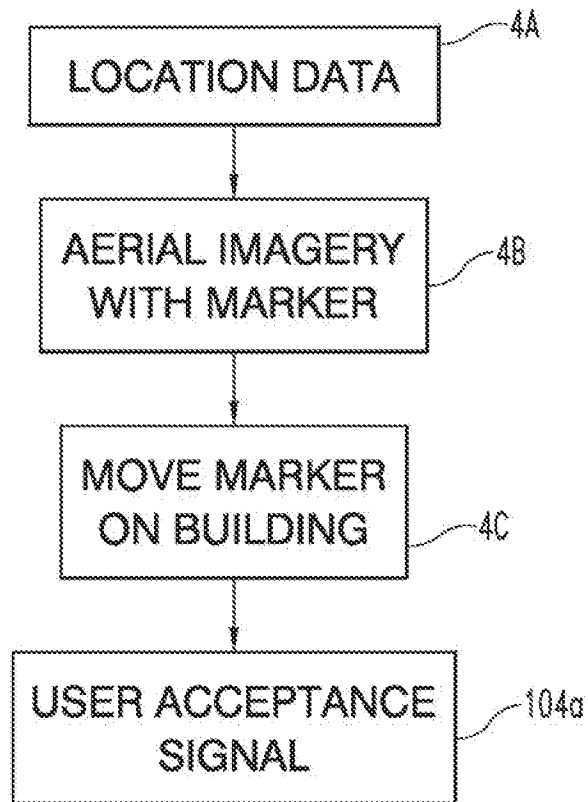


Fig. 3

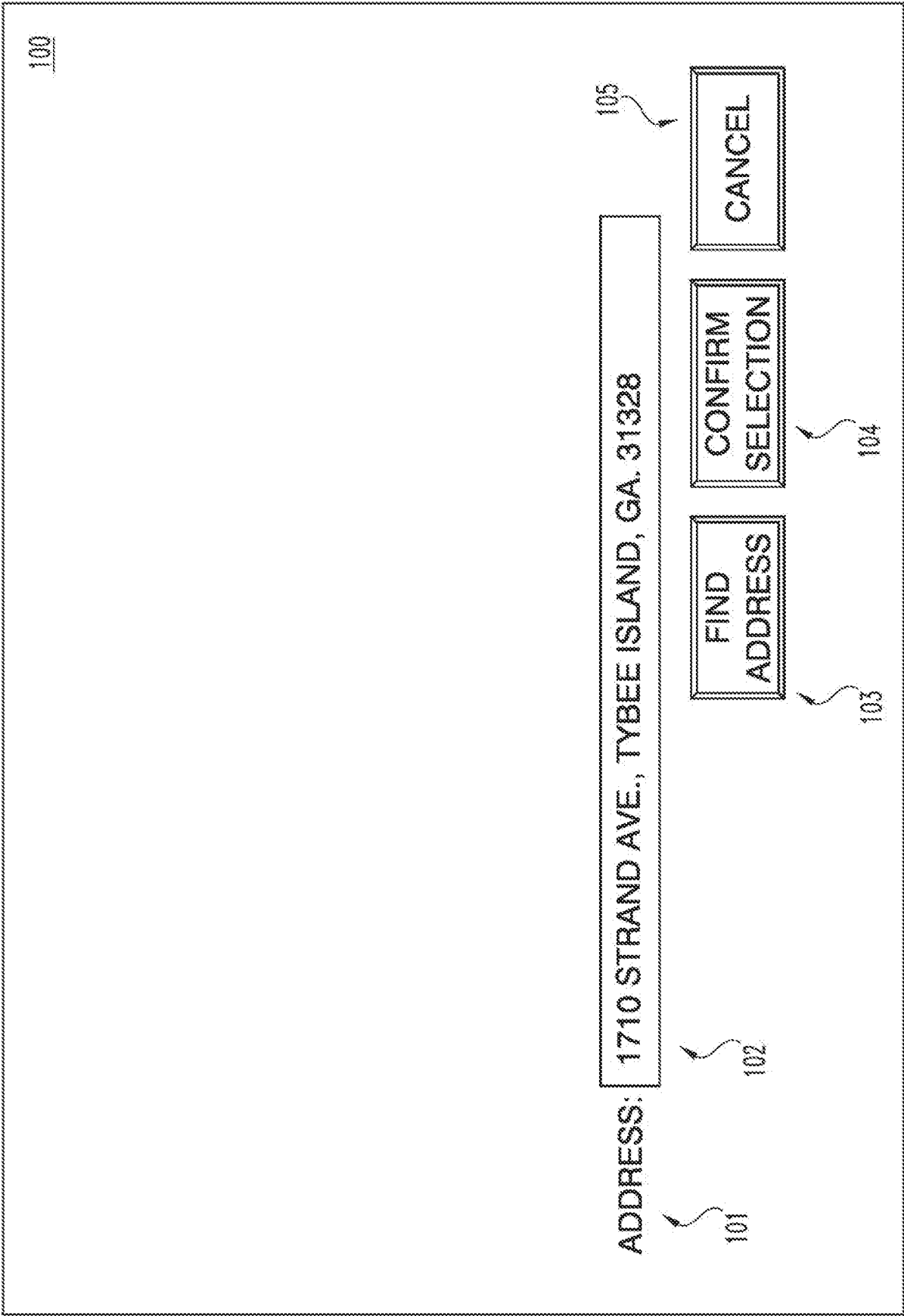


Fig. 4A

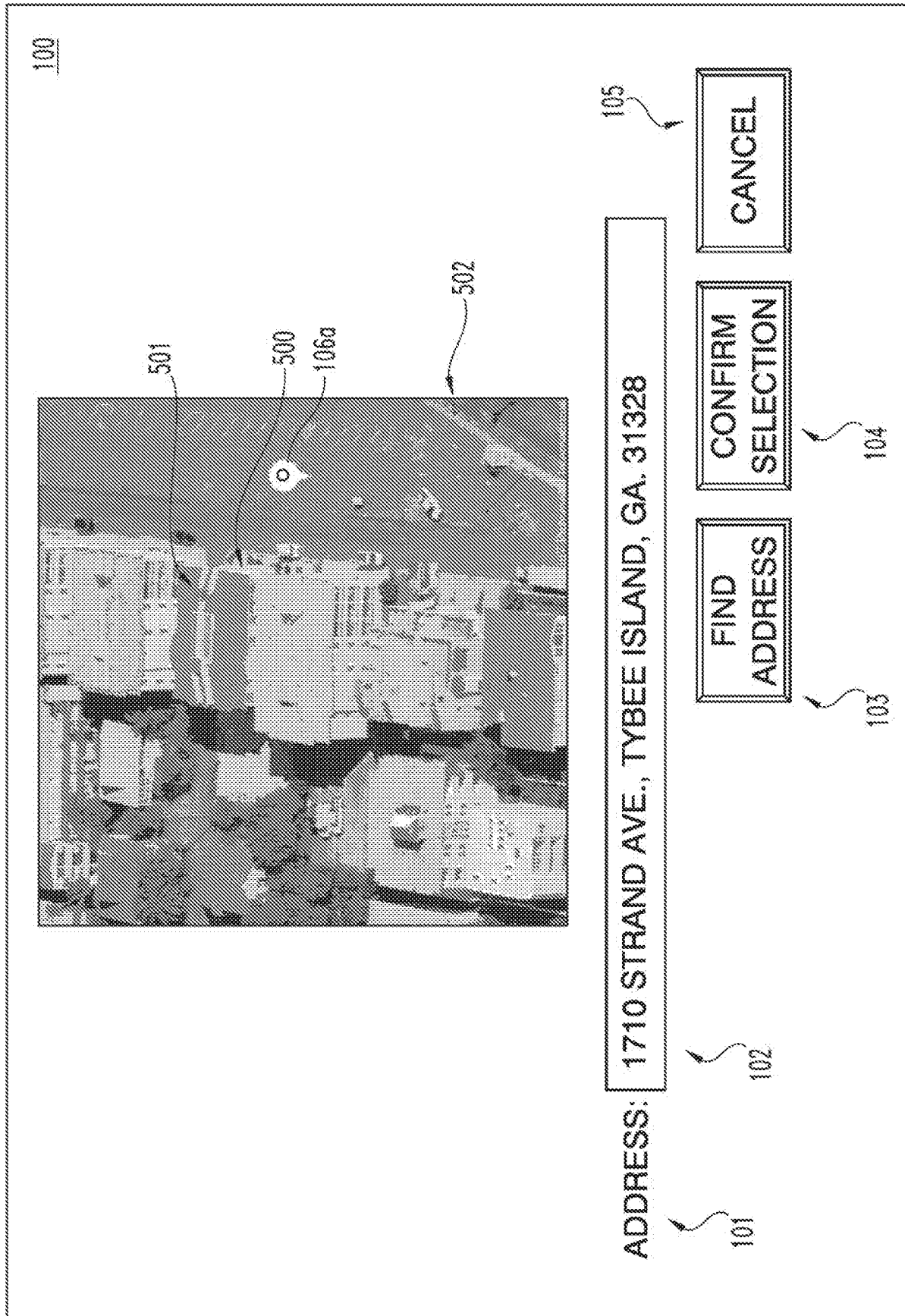


Fig. 4B

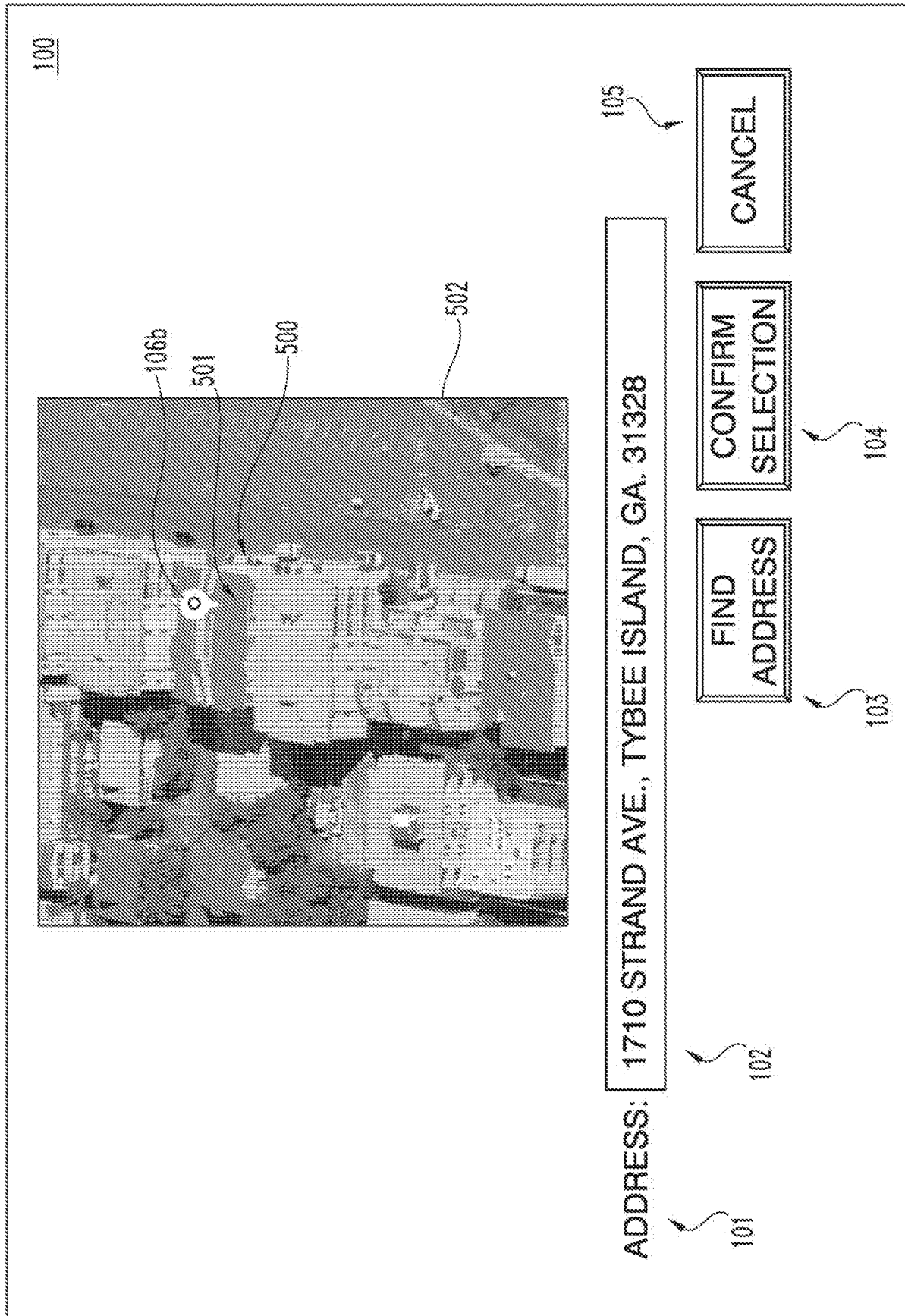
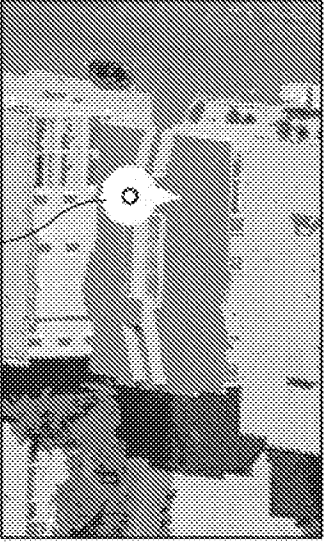


Fig. 4C

ADDRESS TO BE MEASURED:	
1710 STRAND AVE.	
CITY:	TYBEE ISLAND
STATE:	GA.
ZIP CODE	31328
NUMBER OF PLANES	
RUSH PROCESSING	
OPTIONAL:	
REFERENCE NUMBER:	
CLAIM NUMBER:	
ADD TO CART	



100

106b

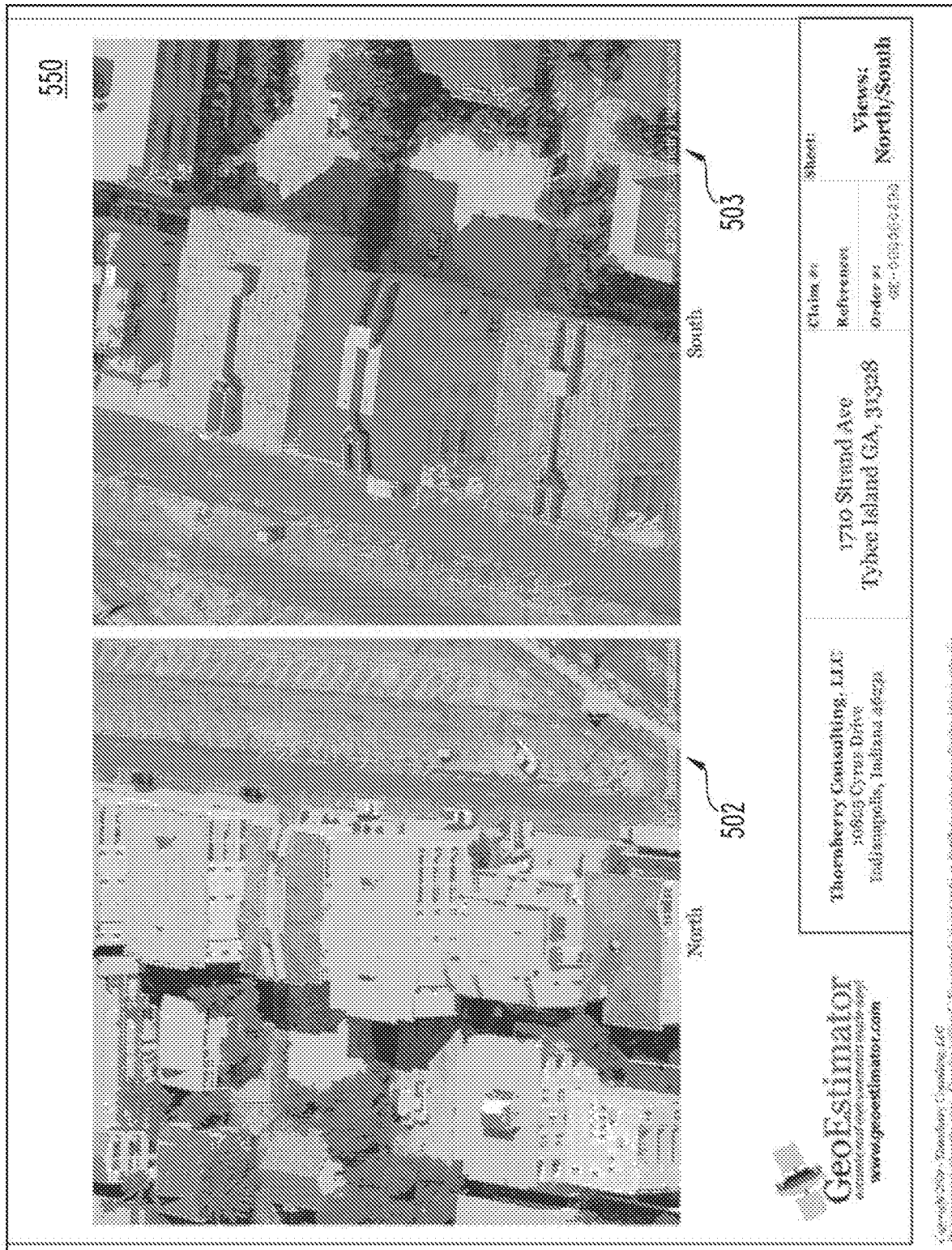
502a

☒ I have reviewed the image and confirm my selection is correct.

LATITUDE REFERENCE:
38.7492

LONGITUDE REFERENCE:
-85.2748

Fig. 4D



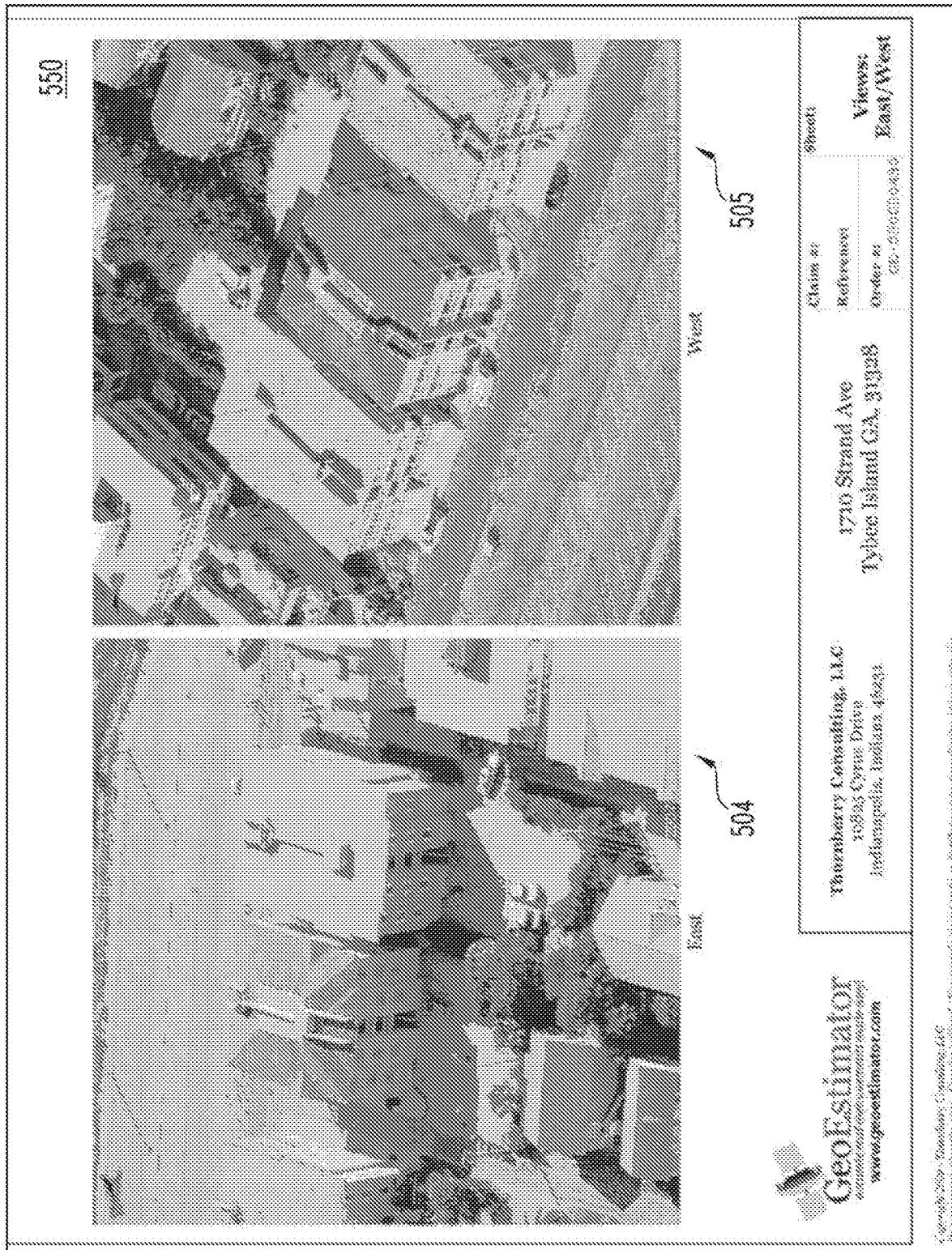


Fig. 5B

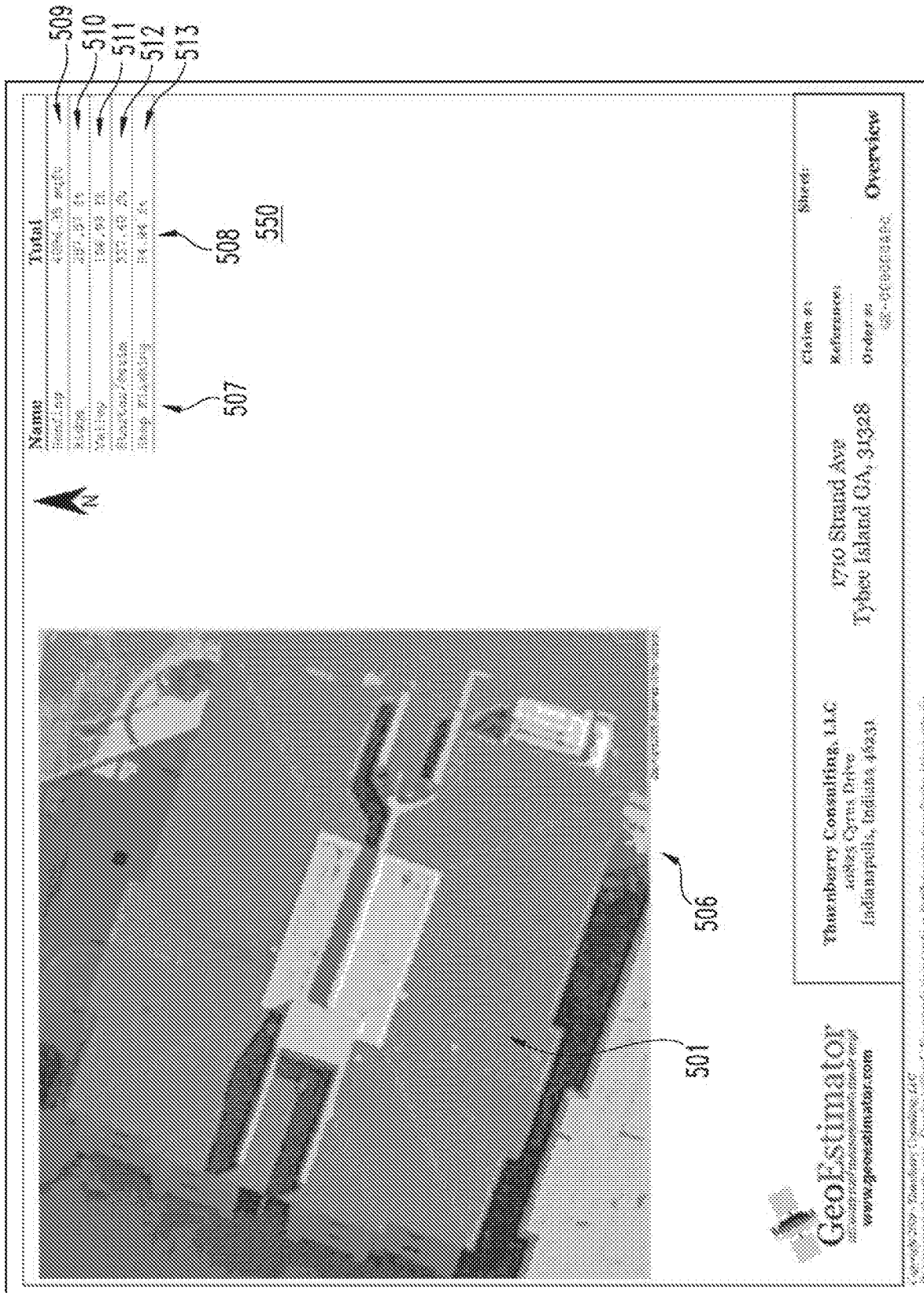
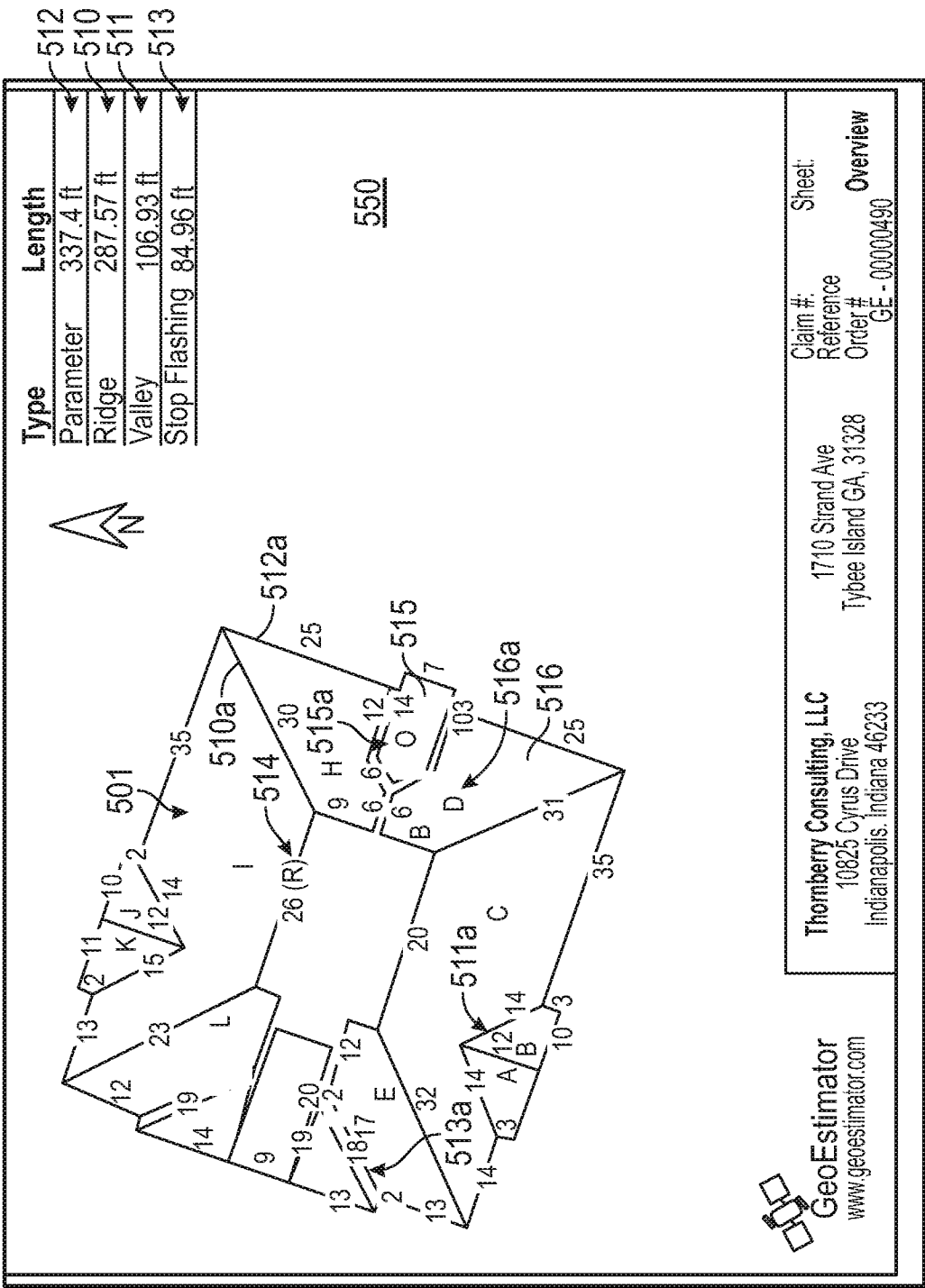


Fig. 5C



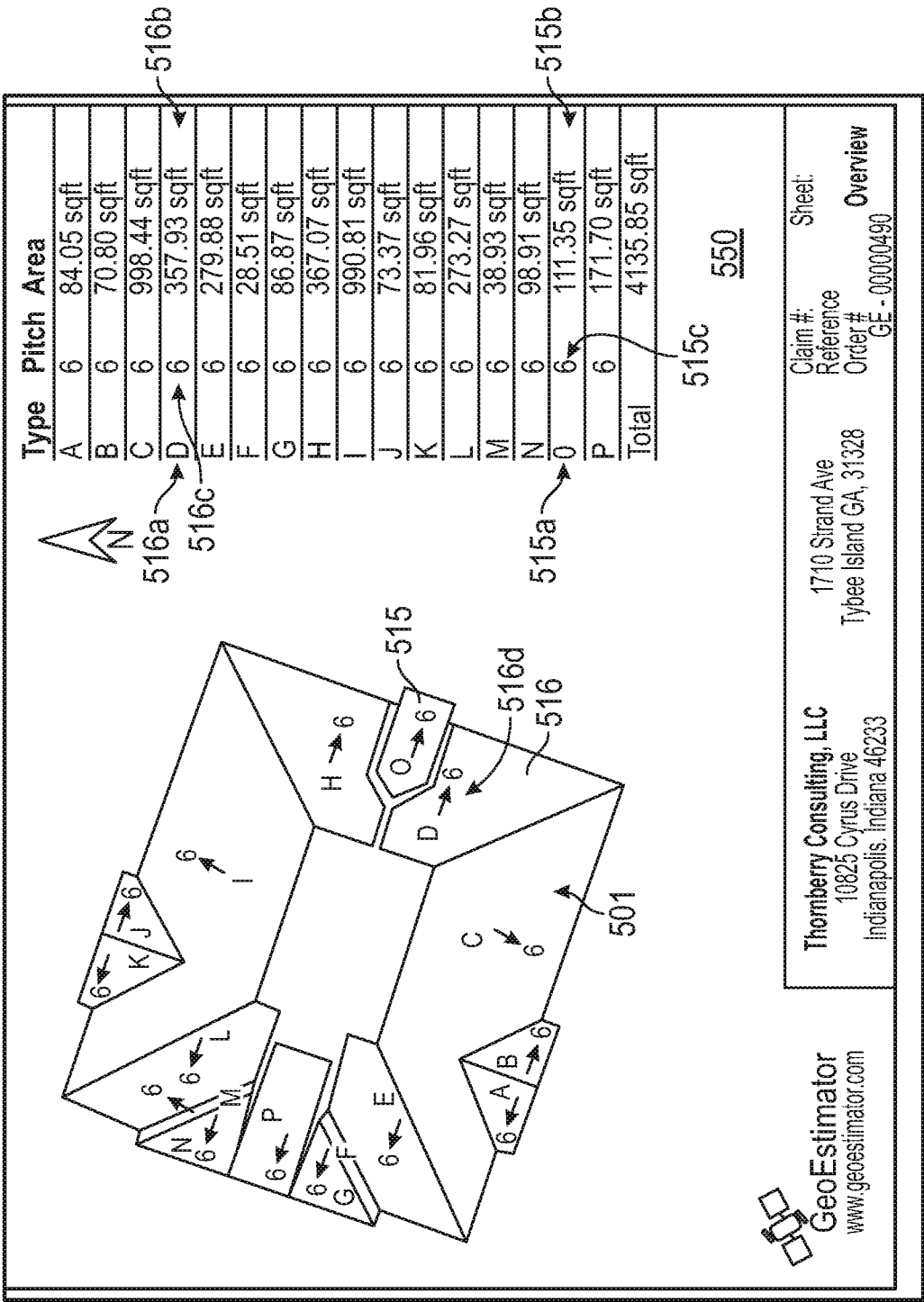


FIG. 5E

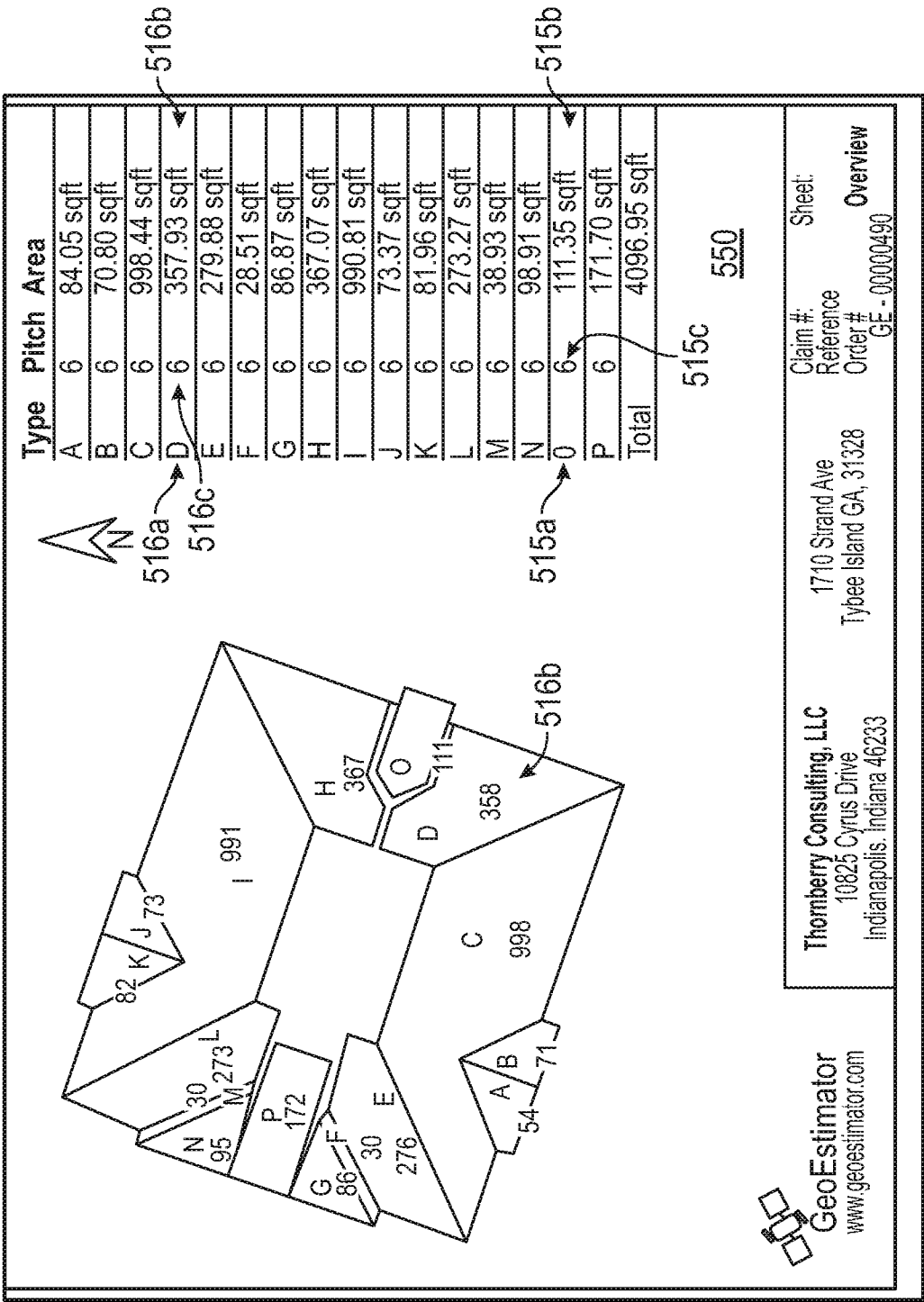


FIG. 5F

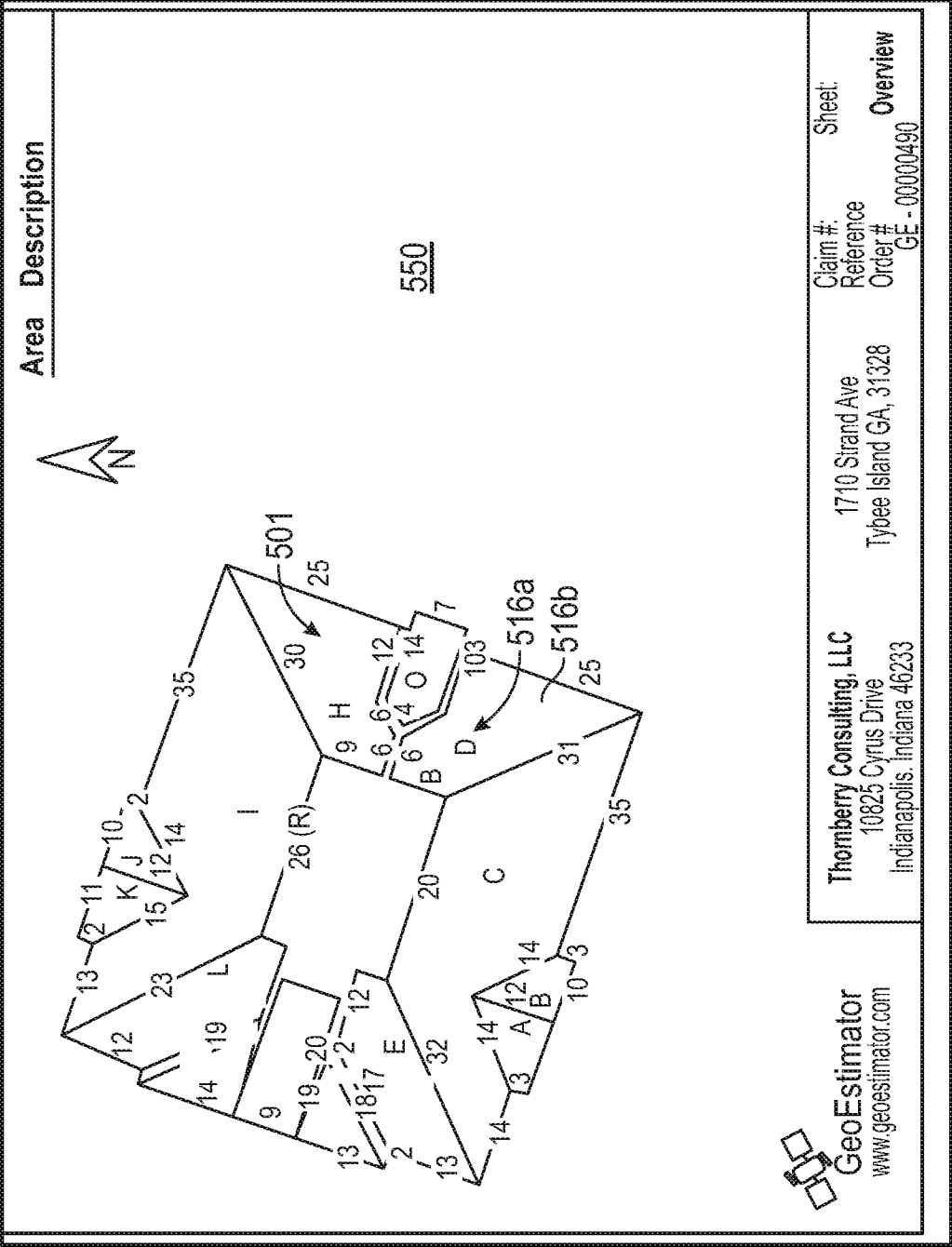


FIG. 5G

Roofing			Ridge			Ridge		
Plane	Area		Plane	Length		Plane	Length	
A	84.05 sqft		A	11.79 ft		A	14.36 ft	
B	70.80 sqft		B	0 ft		B	13.39 ft	
C	888.44 sqft		C	89.99 ft		C	0 ft	
D	357.93 sqft		D	8.08 ft		D	7.08 ft	
E	275.88 sqft		E	16.84 ft		E	17.08 ft	
F	29.51 sqft		F	17.86 ft		F	0 ft	
G	85.87 sqft		G	0 ft		G	0 ft	
H	367.07 sqft		H	38.94 ft		H	5.94 ft	
I	990.81 sqft		I	58.65 ft		I	29.48 ft	
J	73.37 sqft		J	12.15 ft		J	0 ft	
K	81.99 sqft		K	0 ft		K	0 ft	
L	273.27 sqft		L	12.10 ft		L	19.08 ft	
M	38.03 sqft		M	19.08 ft		M	0 ft	
N	98.91 sqft		N	0 ft		N	0 ft	
O	111.35 sqft		O	0 ft		O	0 ft	
P	171.70 sqft		P	0 ft		P	0 ft	
Total	4095.95 sqft		Total	287.57 ft		Total	108.93 ft	
517			518			519		

50

Perimeter		Step Flashing	
Plane	Length	Plane	Length
A	40.29 ft	A	0 ft
B	26.08 ft	B	0 ft
C	139.64 ft	C	0 ft
D	56.78 ft	D	0 ft
E	17.02 ft	E	0 ft
F	22.06 ft	F	0 ft
G	26.25 ft	G	0 ft
H	88.18 ft	H	0 ft
I	336.34 ft	I	0 ft
J	24.82 ft	J	0 ft
K	13.30 ft	K	0 ft
L	16.09 ft	L	0 ft
M	22.98 ft	M	0 ft
N	27.82 ft	N	0 ft
O	14.43 ft	O	37.01 ft
P	82.01 ft	P	47.83 ft
Total	816.84 ft	Total	84.84 ft
520		521	
		550	



GeoEstimator
www.geoestimator.com

Thornberry Consulting, LLC
10825 Cyrus Drive
Indianapolis, Indiana 46233

1710 Strand Ave
Tybee Island GA, 31328

Claim #: Sheet:
Reference Order #
GE-00000490
Overview

FIG. 5I

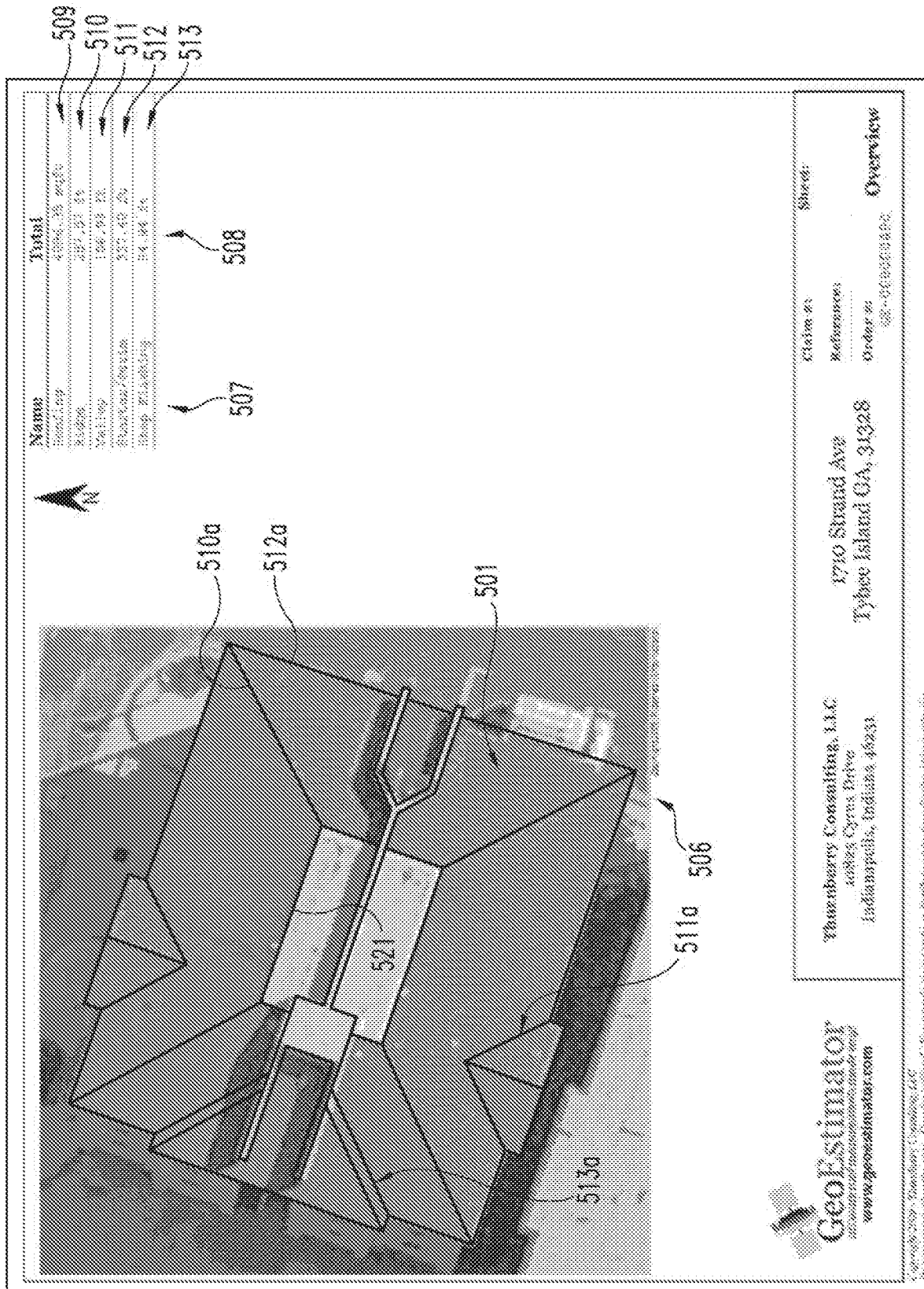


Fig. 6

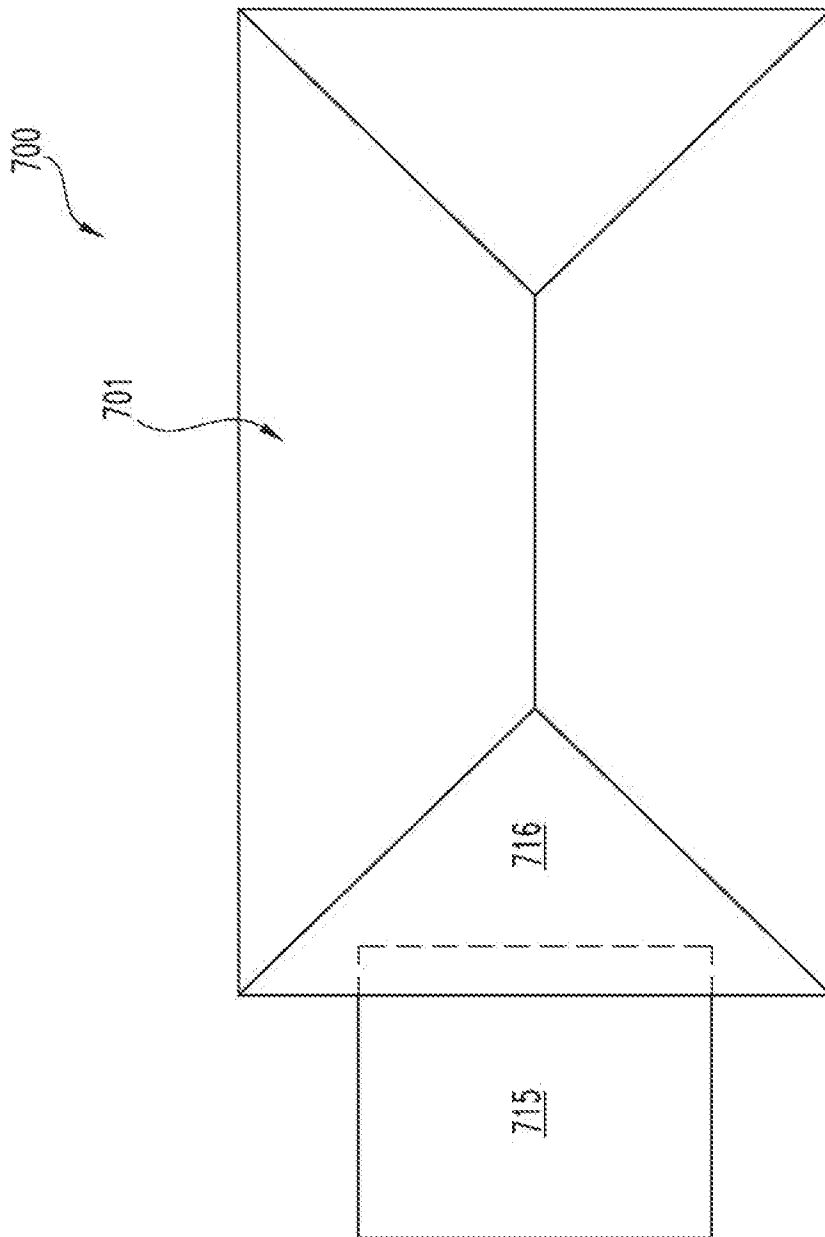


Fig. 7A

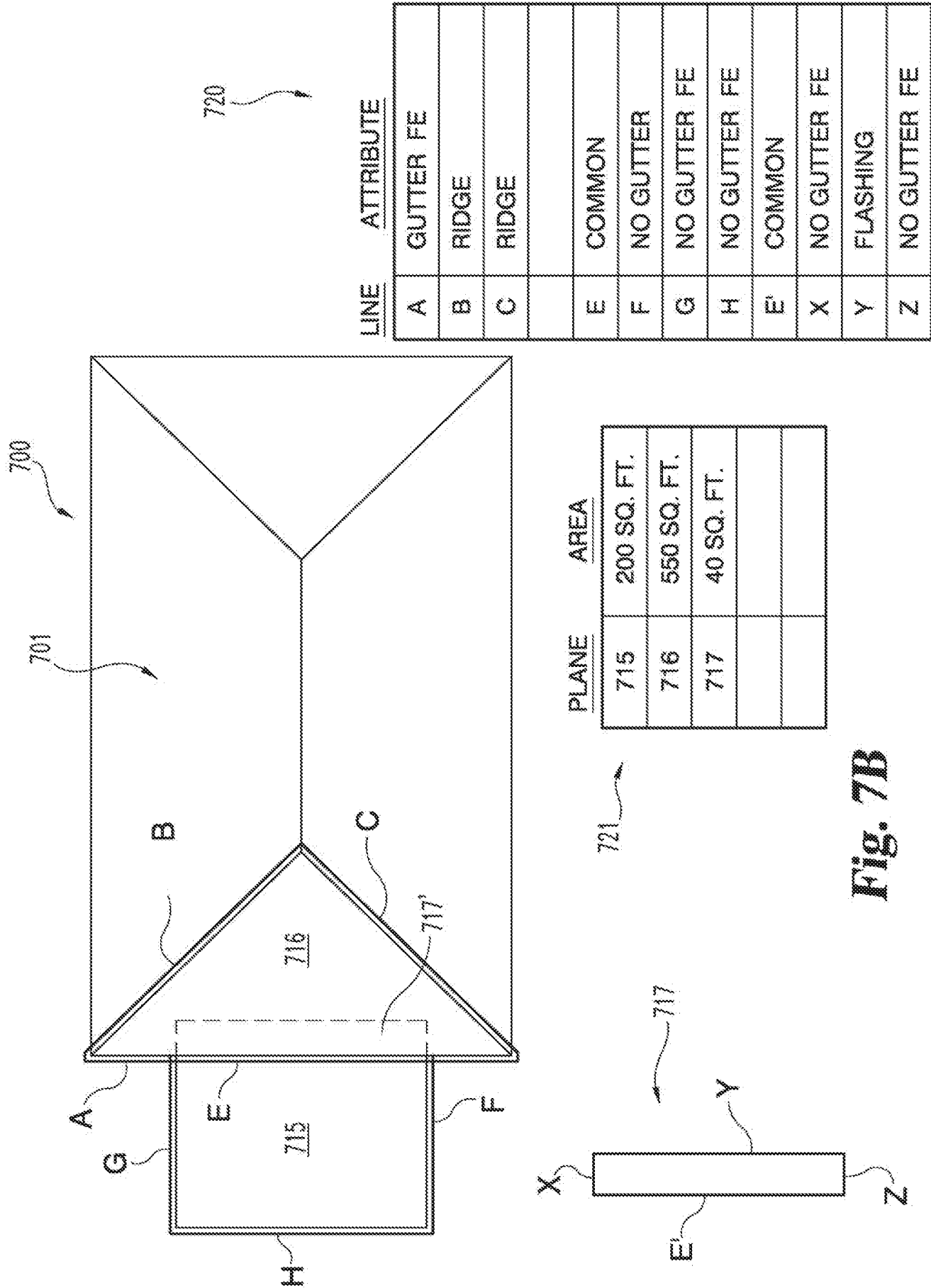


Fig. 7B

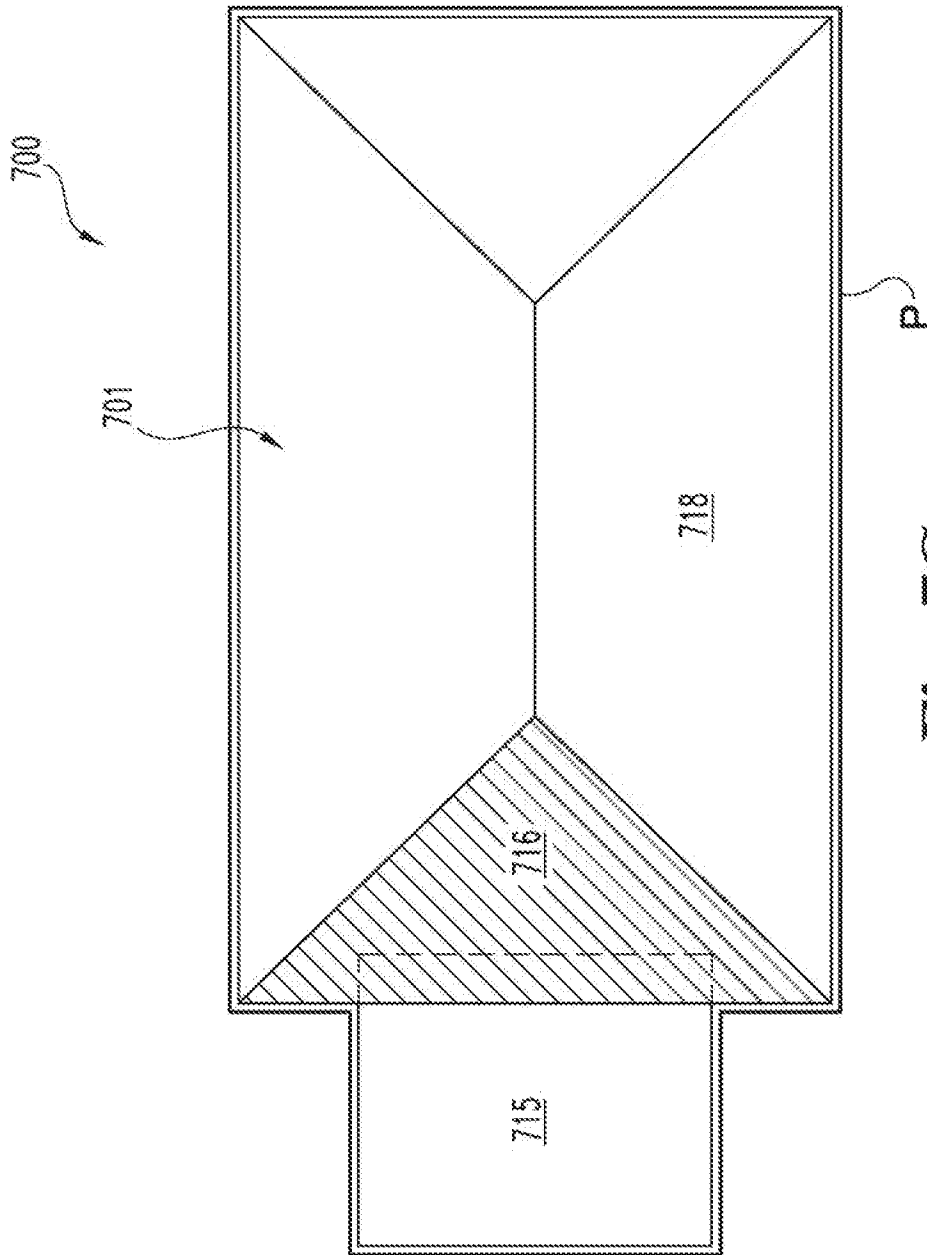


Fig. 7C

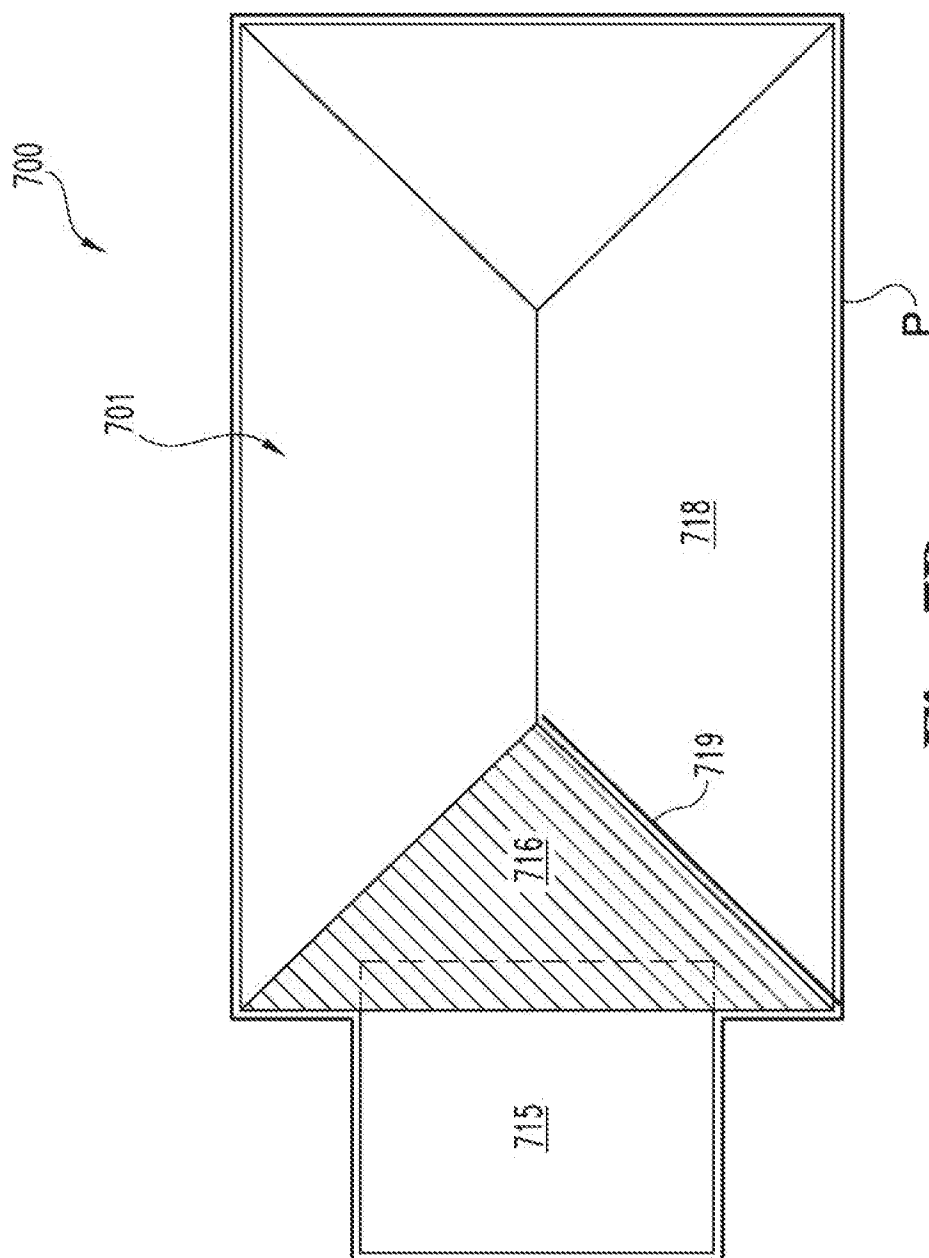


Fig. 7D

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Complete if Known

Application No.

Filing Date

First Named Inventor

Dale R. Thornberry

Art Unit

Unknown

Examiner Name

Unknown

Attorney Docket No.

6338.429

U. S. PATENT APPLICATION DOCUMENTS

EXAM INIT.	Cite No. ¹	Patent Number Number-Kind Code ¹ (if known)	Name of Patentee or Applicant of Cited Document	Issue Date MM/DD/YYYY	

U. S. PATENT APPLICATION PUBLICATION DOCUMENTS

EXAM INIT.	Cite No. ¹	Publication Number Number-Kind Code ¹ (if known)	Name of Patentee or Applicant of Cited Document	Publications Date MM/DD/YYYY	
	PB100	2007/0220174	Abhyanker	09/20/2007	
	PB101	2014/0025343	Gregg et al.	01/23/2014	
	PB102	2007/0106523	Eaton et al.	05/10/2007	
	PB103	2005/0033716	Ambroz et al.	02/10/2005	

FOREIGN PATENT DOCUMENTS

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EXAM INIT.	Cite Number	
	NPL100	USPTO, Office Action regarding U.S. Patent Application Serial Number 13/915,285 (Atty. Dkt. 6338.217), April 9, 2015.

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INIT.

Cite Number

NON-PATENT DOCUMENTS

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NPL101

APPLICANT, Response to Office Action regarding U.S. Patent Application Serial Number 13/915,285 (Atty. Dkt. 6338.217), October 9, 2015.

NPL102

USPTO, Office Action regarding U.S. Patent Application Serial Number 13/915,285 (Atty. Dkt. 6338.217), December 16, 2015.

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Application No.	
Filing Date	Herewith
First Named Inventor	Dale R. Thornberry
Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket No.	6338.439

U. S. PATENT APPLICATION DOCUMENTS

EXAM INIT.	Cite No. ¹	Patent Number Number-Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Issue Date MM/DD/YYYY	
	P1	7,920,963	JOULINE et al.	04/05/2011	

U. S. PATENT APPLICATION PUBLICATION DOCUMENTS

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	NPL01	XACTWARE SOLUTIONS, INC., Petition for <i>inter partes</i> review of U.S. patent No. 8,542,880, IPR2016-00594, Mail Date 02/08/2016.
	NPL02	PICTOMETRY INTERNATIONAL CORP., Electronic Field Study User Guide Version 2.7 (as filed as Exhibit-1004 in IPR2016-00594), July 2007.

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Attorney Docket No.	6338.439

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	NPL03	HSIEH, YUAN, Design and Evaluation of a Semi-Automated Site Modeling System (as filed as Exhibit-1005 in IPR2016-00594), November 1995.
	NPL04	SCHUCH, HAROLD, Declaration in support of Petition for <i>inter partes</i> review of U.S. patent No. 8,542,880, IPR2016-00594 (as filed as Exhibit-1006 in IPR2016-00594), Mail Date 02/08/2016.
	NPL05	EAGLE VIEW TECHNOLOGIES, INC., and PICTOMETRY INTERNATIONAL CORP; Complaint for infringement of U.S. Patent 8,542,880 in litigation (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025- RBK-JS, filing date 09/23/2015.
	NPL06	XACTWARE SOLUTIONS, INC., AND VERISK ANALYTICS, INC., Answer to Complaint for infringement of U.S. Patent 8,542,880 in litigation (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025- RBK-JS, filing date 11/12/2015.
	NPL07	EAGLE VIEW TECHNOLOGIES, INC., and PICTOMETRY INTERNATIONAL CORP; Amended Complaint for infringement of U.S. Patent 8,542,880 in litigation (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025-RBK-JS, filing date 11/30/2015.

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	NPL08	XACTWARE SOLUTIONS, INC., AND VERISK ANALYTICS, INC., Amended Answer, Affirmative Defenses, Counterclaims to Amended Complaint for infringement of U.S. Patent 8,542,880 in litigation (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025-RBK-JS, filing date 12/14/2015.
	NPL09	XACTWARE SOLUTIONS, INC., AND VERISK ANALYTICS, INC., Motion to Dismiss Complaint for infringement of U.S. Patent 8,542,880 under 35 U.S.C. 101 and supporting Memorandum in litigation (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025-RBK-JS, filing date 02/09/2016.
	NPL10	XACTWARE SOLUTIONS, INC., AND VERISK ANALYTICS, INC., Invalidity Contentions regarding U.S. Patent 8,542,880 in litigation (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025-RBK-JS, filing date 02/09/2016.
	NPL11	EAGLE VIEW TECHNOLOGIES, INC., AND PICTOMETRY INTERNATIONAL CORP., Response with Claim Charts to Invalidity Contentions regarding U.S. Patent 8,542,880 in litigation (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025-RBK-JS, dated 03/10/2016.

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Date Considered:

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Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket No.	6338.439

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Complete if Known

Application No.	
Filing Date	Herewith
First Named Inventor	Dale R. Thornberry
Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket No.	6338.439

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NON-PATENT DOCUMENTS

EXAM INIT.	Cite No. ¹	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.
	NPL01	EAGLE VIEW TECHNOLOGIES, INC., AND PICTOMETRY INTERNATIONAL CORP., Response in Opposition to Motion to Dismiss Complaint for infringement of U.S. Patent 8,542,880 under 35 U.S.C. 101 (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025-RBK-JS, filing date 03/22/2016.

Examiner Signature:

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	NPL1	PICTOMETRY INTERNATIONAL CORP., Patent Owner's Preliminary Response to petition for <i>inter partes</i> review of U.S. patent No. 8,542,880, IPR2016- 00594, Filed June 2, 2016.

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	NPL01	PATENT TRIAL AND APPEAL BOARD, Decision to institute <i>inter partes</i> review of claims 1-10 and 13-20 of U.S. patent No. 8,542,880, IPR2016-00594, Paper 13, Mail Date 08/31/2016.
	NPL02	PICTOMETRY INTERNATIONAL CORP., Patent Owner Response filed in IPR2016-00594, November 16, 2016.
	NPL03	BAJAJ, Declaration of Dr. Chandrajit Bajaj, as filed as Exhibit-2006 in IPR2016-00594 on November 16, 2016.
	NPL04	Deposition of Mr. Harold Schuch of November 2, 2016, as filed as Exhibit-2005 in IPR2016-00594 on November 16, 2016.

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	NPL06	ANONYMOUS, LARIAC1 Pictometry Training webpage printout, dated 2009, as filed as Exhibit-2011 in IPR2016-00594 on November 16, 2016.
	NPL07	LOS ANGELES COUNTY et al., LAR-IAC2 Product Guide, dated February 2009, as filed as Exhibit-2012 in IPR2016-00594 on November 16, 2016.
	NPL08	ANONYMOUS; Los Angeles County Extends its License Agreement with Pictometry for New Oblique Aerial Photos; dated March 7, 2006; as filed as Exhibit-2013 in IPR2016-00594 on November 16, 2016.
	NPL09	HORAN; Pictometry Administrative Training; as filed as Exhibit-2014 in IPR2016-00594 on November 16, 2016.
	NPL10	UNKNOWN; Screenshot of File Info sheet entitled "Information about TXWILMAdministrative Training"; as filed as Exhibit-2015 in IPR2016-00594 on November 16, 2016.
	NPL11	UNKNOWN; Description of Pictometry Training; as filed as Exhibit-2016 in IPR2016-00594 on November 16, 2016.
	NPL12	APGAR; GIS Working Group Meeting Minutes 2007; as filed as Exhibit-2019 in IPR2016-00594 on November 16, 2016.
	NPL13	ASIMONYE; Geospatial Information Systems Council - Pictometry: Oblique Imagery training, dated April 2009; as filed as Exhibit-2020 in IPR2016-00594 on November 16, 2016.
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	NPL16	LANCTOT; Welcome to Your End User Training; as filed as Exhibit-2023 in IPR2016-00594 on November 16, 2016.
	NPL17	PICTOMETRY INTERNATIONAL CORP.; Electronic Field Study Getting Started Guide; dated July 2007; as filed as Exhibit-2024 in IPR2016-00594 on November 16, 2016.
	NPL18	GISUSER; Pictometry Announces Technical Advancements for GIS Professionals; dated December 5, 2006; Spatial Media; as filed as Exhibit-2025 in IPR2016-00594 on November 16, 2016.
	NPL19	UNKNOWN; Pictometry Announces Technical Advancements for GIS Professionals; dated December 7, 2006; Directions Media; as filed as Exhibit-2026 in IPR2016-00594 on November 16, 2016.
	NPL20	BITTER et al.; Macmillan Encyclopedia of Computers; Macmillan Publishing Company; 1992; Volume 1; pp. 230-231; as filed as Exhibit-2027 in IPR2016-00594 on November 16, 2016.
	NPL21	PICTOMETRY INTERNATIONAL CORP. et al.; Metropolitan Area Planning Council License Agreement; 2009; as filed as Exhibit-2009 in IPR2016-00594 on November 16, 2016.

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	NPL01	PATENT TRIAL AND APPEAL BOARD, Final Written Decision in <i>inter partes</i> review of claims 1-10 and 13-20 of U.S. patent No. 8,542,880, IPR2016-00594, Paper 46, August 24, 2017.
	NPL02	XACTWARE SOLUTIONS, INC., Petitioner's Reply to Patent Owner Response in <i>inter partes</i> review of claims 1-10 and 13-20 of U.S. patent No. 8,542,880, IPR2016-00594, Paper 33, January 27, 2017.
	NPL03	USPTO, Office Action regarding Application No. 13/915,285 (Atty. Dkt. 6338.217), Mail Date April 10, 2017.

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Attorney Docket No.	6338.439

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	P2	5,319,541	Blanchard et al.	06/07/1994	
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	P4	5,633,995	McClain	05/27/1997	
	P5	5,699,444	Palm	12/16/1997	
	P6	5,995,765	Kaneko et al.	11/30/1999	
	P7	6,323,885	Wiese	11/27/2001	
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	PB10	2010/0110074	Pershing	05/06/2010	
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	F1	WO20000029806	Friedhelm et al.	05/25/2000	
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	F3	AU2010219392	Eagle View Technologies, Inc.	09/30/2010	

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	NPL4	MICROSOFT'S MSN VIRTUAL EARTH: The Map is the Search Platform; February 6, 2009

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	NPL6	"Automatic House Reconstruction", http://www.vision.ee.ethz.ch/projects/Amobe_l/recons.html , accessed 3/15/2010
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	NPL27	Somay Roof Calculator, http://www.somay.com/roof_coatings/roof_calculate/roof_calculate.html , accessed on 5/22/2009
	NPL28	VINCENTY, T., "Direct And Inverse Solutions Of Geodesics On The Ellipsoid With Application Of Nested Equations", Warren AFB, Wyoming, April 1975, pp. 88-93.
	NPL29	Ways To Determine or Calculate Roof Pitch or Roof Slope Using a Carpenters Level, http://roofgenius.com/roofpitch.htm , accessed 5/22/2009
	NPL30	Delaney, Kevin J., "Searching For Clients From Above", The Wall Street Journal, July 31, 2007.
	NPL31	Faugeras et al., "3-D Reconstruction of Urban Scenes From Image Sequences", INRIA, 2004, France, Sept. 11, 1997.
	NPL32	Henricsson, O. et al., "3-D Building Reconstruction with ARUBA: A Qualitative and Quantitative Evaluation," Institute of Geodesy and Photogrammetry, Switzerland, 1997, 12 pages.
	NPL33	http://www.precigeo.com/ , "Solar Professionals, Insurance Adjusters, Roofing and Landscape Estimators: Use Precigeo To Get Rapid, Accurate and Visually Compelling Sketches and Measurements, accessed on 3/15/10.
	NPL34	Poullis et al., "Photogrammetric Modeling And Image-Based Rendering For Rapid Virtual Environment Creation", University of Southern California, Institute For Creative Technologies

Substitute for form 1449/PTO
PTO/SB/08A and 08B
Form 6-2 and Form 6-2.1

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as
necessary)

Complete if Known

Application No.

Filing Date

Herewith

First Named Inventor

Dale R. Thornberry

Art Unit

Unknown

Examiner Name

Unknown

Attorney Docket No.

6338.439

NON-PATENT DOCUMENTS

EXAM INIT.	Cite No. ¹	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.
	NPL35	Scholze, Stephan, "A Probabilistic Approach To Building Roof Reconstruction", A Dissertation Submitted To The Swiss Federal Institute Of Technology Zurich, 2002.
	NPL36	Ziegler et al., 3D Reconstruction Using Labeled Image Regions, Eurographics Symposium on Geometry Processing, 2003.

Examiner Signature:

Date Considered:

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

1 Applicant's unique citation designation number.

2 See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04.

3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible.

6 Applicant is to place a check mark here if English language translation is attached.

Substitute for form 1449/PTO
PTO/SB/08A and 08B
Form 6-2 and Form 6-2.1

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Use as many sheets as
necessary)

Complete if Known

Application No.	
Filing Date	Herewith
First Named Inventor	Dale R. Thornberry
Art Unit	
Examiner Name	
Attorney Docket No.	6338.439

U. S. PATENT APPLICATION DOCUMENTS

EXAM INIT.	Cite No. ¹	Patent Number Number-Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Issue Date MM/DD/YYYY	

U. S. PATENT APPLICATION PUBLICATION DOCUMENTS

EXAM INIT.	Cite No. ¹	Publication Number Number-Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Publications Date MM/DD/YYYY	

FOREIGN PATENT DOCUMENTS

EXAM INIT.	Cite No. ¹	Foreign Document No. ³ Country Code ⁴ - Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM- DD-YYY	T ⁶

NON-PATENT DOCUMENTS

EXAM INIT.	Cite No. ¹	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.
	NPL01	XACTWARE SOLUTIONS, INC., Brief on Behalf of Appellant, IPR2016-00593 and IPR2016-00594, filed 03/05/2018.

Examiner Signature:

Date Considered:

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

¹ Applicant's unique citation designation number.

² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04.

³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible.

⁶ Applicant is to place a check mark here if English language Translation is attached.

Electronic Patent Application Fee Transmittal

Application Number:

Filing Date:

Title of Invention:

SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY

First Named Inventor/Applicant Name:

Dale R. Thornberry

Filer:

Marc Alan Brockhaus/Lori Martin

Attorney Docket Number:

6338.439

Filed as Large Entity

Filing Fees for Utility 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

Pages:

Claims:

Miscellaneous-Filing:

LATE FILING FEE FOR OATH OR DECLARATION	1051	1	160	160
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Petition:

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1880

Electronic Acknowledgement Receipt

EFS ID:	32224524
Application Number:	15943337
International Application Number:	
Confirmation Number:	7670
Title of Invention:	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY
First Named Inventor/Applicant Name:	Dale R. Thornberry
Customer Number:	30589
Filer:	Marc Alan Brockhaus/Lori Martin
Filer Authorized By:	Marc Alan Brockhaus
Attorney Docket Number:	6338.439
Receipt Date:	02-APR-2018
Filing Date:	
Time Stamp:	17:26:36
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 1880
RAM confirmation Number	040318INTEFSW17275800
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal of New Application	6338439_Transmittal.pdf	62870	no	1
			a3524033fdab8b7a3c85b78f9771.33ffa7322cbe		
Warnings:					
Information:					
2	Application Data Sheet	6338439_ADS.pdf	394888	no	8
			68f7dee06cbd0246980ae6bacd72a0c5b804c6e		
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
3		6338439_Application.pdf	221325	yes	39
			d9304b3e4b925b2c3dc16377d86733b8a203f048		
	Multipart Description/PDF files in .zip description				
	Document Description	Start	End		
	Specification	1	31		
	Claims	32	38		
	Abstract	39	39		
Warnings:					
Information:					
4	Drawings-only black and white line drawings	6338439_Drawings.pdf	2283236	no	21
			6dcf03db8d3ad28ff0ed177077c387f3d86f8f8b		
Warnings:					
Information:					

5	Information Disclosure Statement (IDS) Form (SB08)	6338439_IDS.pdf	949403	no	22
			36a0ddaa63c9822b9262090cc8d20b8fd6e07c2c		

Warnings:

Information:

This is not an USPTO supplied IDS fillable form

6	Fee Worksheet (SB06)	fee-info.pdf	36803	no	2
			6786feb68ae33b541423a4a988b02da10c2d6181		

Warnings:

Information:

Total Files Size (in bytes):	3948525
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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.

SCORE Placeholder Sheet for IFW Content

Application Number: 15943337

Document Date: 04/02/2018

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.

Electronically Filed On: April 4, 2018

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No. : 15/943,337 Confirmation No.: 7670
Inventors : Dale R. Thornberry, Chris T. Thornberry and
Mark F. Garringer
Filed : April 2, 2018
TC/A.U. : 3633
Examiner : Not Yet Assigned
Title : SYSTEM AND PROCESS FOR ROOF MEASUREMENT
USING IMAGERY
Docket No. : 6338.439
Customer No. : 35089

Via EFS-Web

REQUEST FOR CORRECTED APPLICATION DATA SHEET

1. Correction of Domestic Benefit Information Data on AIA14 Application Data Sheet (ADS) under 37 CFR 1.76

- a. A Replacement AIA14 Application Data Sheet is hereby submitted to correct an error in the Domestic Benefit Information section.
- b. Due to a clerical error, the Domestic Benefit Information section in the AIA14 Application Data Sheet filed on April 2, 2018, failed to enter the application number (13/786699) which is a continuation of the prior application (12/470984).

2. Attachments

Attached is:

- [X] a Corrected AIA14 Application Data Sheet under 37 CFR 1.76 with changes noted in the following section:
- Domestic Benefit Information.

Respectfully submitted,

Marc Brockhaus

Marc A. Brockhaus
Registration No. 40,923
DUNLAP CODDING P.C.
P.O. Box 16370
Oklahoma City, Oklahoma 73113
Telephone: 405-607-8600
Facsimile: 405-607-8686
Email: mbrockhaus@dunlapcoddington.com
Attorney for Applicant

Amended Application Data Sheet

PTO/AIA/14 (11-15)

Approved for use through 04/30/2017. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6338.439
		Application Number	15/943,337
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2:

☐	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--------------------------	---

Inventor Information:

Inventor 1						
Legal Name						
Prefix	Given Name	Middle Name	Family Name	Suffix		
	Dale	R.	Thornberry			
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service						
City	Carmel	State/Province	IN	Country of Residence	US	
Mailing Address of Inventor:						
Address 1	13890 Wildcat Dr.					
Address 2						
City	Carmel	State/Province	IN			
Postal Code	46033	Country i	US			
Inventor 2						
Legal Name						
Prefix	Given Name	Middle Name	Family Name	Suffix		
	Chris	T.	Thornberry			
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service						
City	Indianapolis	State/Province	IN	Country of Residence	US	
Mailing Address of Inventor:						
Address 1	10825 Cyrus Dr.					
Address 2						
City	Indianapolis	State/Province	IN			
Postal Code	46231	Country i	US			
Inventor 3						
Legal Name						
Prefix	Given Name	Middle Name	Family Name	Suffix		
	Mark	F.	Garringer			
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service						

Amended Application Data Sheet

PTO/AIA/14 (11-15)

Approved for use through 04/30/2017. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	6338.439		
		Application Number	15/943,337		
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY				
City	Eaton	State/Province	IN	Country of Residence	US
Mailing Address of Inventor:					
Address 1	516 E. South				
Address 2					
City	Eaton	State/Province	IN		
Postal Code	47338	Country	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
☐ An Address is being provided for the correspondence information of this application.			
Customer Number	30589		
Email Address	mbrockhaus@dunlapcoddling.com	Add Email	Remove Email

Application Information:

Title of the Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY		
Attorney Docket Number	6338.439	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	21	Suggested Figure for Publication (if any)	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐ Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Amended Application Data Sheet

PTO/AIA/14 (11-15)

Approved for use through 04/30/2017. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6338.439
	Application Number	15/943,337
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY	

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	30589		

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	15/005977	2016-01-25		
Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15/005977	Continuation of	14/018943	2013-09-05	9244589	2016-01-26
Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14/018943	Continuation of	13/774478	2013-02-22	8542880	2013-09-24
Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13/774478	Continuation of	12/470984	2009-05-22	8401222	2013-03-19
Prior Application Status	Patented	Remove			
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
	Continuation of	13/786699	2013-03-06	9329749	2016-05-03

*

Amended Application Data Sheet

PTO/AIA/14 (11-15)

Approved for use through 04/30/2017. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6338.439
	Application Number	<u>15/943,337</u>
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY	

Prior Application Status		<u>Patented</u>		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
<u>13/786699</u>	<u>Continuation of</u>	<u>12/470984</u>	<u>2009-05-22</u>	<u>8401222</u>	<u>2013-03-19</u>
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.					

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)ⁱ the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Remove
			Access Code ⁱ (if applicable)
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Amended Application Data Sheet

PTO/AIA/14 (11-15)

Approved for use through 04/30/2017. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6338.439
	Application Number	15/943,337
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY	

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.

Amended Application Data Sheet

PTO/AIA/14 (11-15)

Approved for use through 04/30/2017. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6338.439
	Application Number	15/943,337
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.			
Applicant 1			
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.			
Clear			
☒ Assignee	☐ Legal Representative under 35 U.S.C. 117	☐ Joint Inventor	
☐ Person to whom the inventor is obligated to assign.		☐ Person who shows sufficient proprietary interest	
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:			
Name of the Deceased or Legally Incapacitated Inventor:			
If the Applicant is an Organization check here. ☒			
Organization Name	Pictometry International Corp.		
Mailing Address Information For Applicant:			
Address 1	25 Methodist Hill Drive		
Address 2			
City	Rochester	State/Province	NY
Country	US	Postal Code	14623
Phone Number		Fax Number	
Email Address			
Additional Applicant Data may be generated within this form by selecting the Add button.			

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Amended Application Data Sheet

PTO/AIA/14 (11-15)

Approved for use through 04/30/2017. OMB 0651-0032

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6338.439
	Application Number	<u>15/943,337</u>
Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	Given Name	Middle Name	Family Name	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1				
Address 2				
City		State/Province		
Country i		Postal Code		
Phone Number		Fax Number		
Email Address				

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).

This Application Data Sheet must be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, all joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of all joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	<i>Marc Brockhaus</i>		Date (YYYY-MM-DD)	2018-04-04	
First Name	Marc A.	Last Name	Brockhaus	Registration Number	40923

Additional Signature may be generated within this form by selecting the Add button.

Amended Application Data Sheet

PTO/AIA/14 (11-15)

Approved for use through 04/30/2017. OMB 0651-0032

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	6338.439
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Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Electronic Acknowledgement Receipt

EFS ID:	32240765
Application Number:	15943337
International Application Number:	
Confirmation Number:	7670
Title of Invention:	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY
First Named Inventor/Applicant Name:	Dale R. Thornberry
Customer Number:	30589
Filer:	Marc Alan Brockhaus/Ashley Morales
Filer Authorized By:	Marc Alan Brockhaus
Attorney Docket Number:	6338.439
Receipt Date:	04-APR-2018
Filing Date:	
Time Stamp:	11:06:59
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	6338439_sb21TransmittalForm_AmendedADS.pdf	58163 e3759399fd98207a711ed5c9205b3d2adc2a9352	no	1

Warnings:

Information:					
2	Miscellaneous Incoming Letter	6338439_RequestforCorrected ADS.pdf	39550	no	2
			3794e05d695cee906365cb5f3e85e497f4779c36		
Warnings:					
Information:					
3	Application Data Sheet	6338439_AmendedADS.pdf	424012	no	8
			8c262aea83d9af314e1719eedceff9e9f1ad3f74		
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
Total Files Size (in bytes):			521725		
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. <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. <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. <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.					

TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	15/943,337	
	Filing Date	04/02/2018	
	First Named Inventor	Dale R. Thornberry	
	Art Unit	3633	
	Examiner Name	Not Yet Assigned	
Total Number of Pages in This Submission	11	Attorney Docket Number	6338.439

ENCLOSURES (Check all that apply)		
☐ Fee Transmittal Form ☐ Fee Attached ☐ Amendment/Reply ☐ After Final ☐ Affidavits/declaration(s) ☐ Extension of Time Request ☐ Express Abandonment Request ☐ Information Disclosure Statement ☐ Certified Copy of Priority Document(s) ☐ Reply to Missing Parts/ Incomplete Application ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53	☐ Drawing(s) ☐ Licensing-related Papers ☐ Petition ☐ Petition to Convert to a Provisional Application ☐ Power of Attorney, Revocation Change of Correspondence Address ☐ Terminal Disclaimer ☐ Request for Refund ☐ CD, Number of CD(s) _____ ☐ Landscape Table on CD	☐ After Allowance Communication to TC ☐ Appeal Communication to Board of Appeals and Interferences ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) ☐ Proprietary Information ☐ Status Letter ☒ Other Enclosure(s) (please identify below): See Remarks.
Remarks ELECTRONICALLY TRANSMITTED: 1. SB21 Transmittal Form (1 pg); 2. Request for Corrected Application Data Sheet (2 pgs); and 3. Amended Application Data Sheet (8 pgs).		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	DUNLAP CODDING, P.C.		
Signature	<i>Marc Brockhaus</i>		
Printed name	Marc A. Brockhaus		
Date	04/04/2018	Reg. No.	40,923

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature	<i>Marc Brockhaus</i>		
Typed or printed name	Marc A. Brockhaus	Date	04/04/2018

This collection of information is required by 37 CFR 1.5. 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 2 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.



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P.O. Box 1450
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/943,337	04/02/2018	Dale R. Thornberry	6338.439

30589
DUNLAP CODDING, P.C.
PO BOX 16370
OKLAHOMA CITY, OK 73113

CONFIRMATION NO. 7670
INFORMAL NOTICE



Date Mailed: 05/01/2018

INFORMATIONAL NOTICE TO APPLICANT

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
Dale R. Thornberry
Chris T. Thornberry
Mark F. Garringer

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/tnguyen/



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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
15/943,337	04/02/2018	3633	1880	6338.439	19	3

CONFIRMATION NO. 7670

FILING RECEIPT

30589
DUNLAP CODDING, P.C.
PO BOX 16370
OKLAHOMA CITY, OK 73113



Date Mailed: 05/01/2018

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)

Dale R. Thornberry, Carmel, IN;
Chris T. Thornberry, Indianapolis, IN;
Mark F. Garringer, Eaton, IN;

Applicant(s)

Pictometry International Corp., Rochester, NY;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 15/005,977 01/25/2016 PAT 9933254
which is a CON of 14/018,943 09/05/2013 PAT 9244589
which is a CON of 13/774,478 02/22/2013 PAT 8542880
which is a CON of 12/470,984 05/22/2009 PAT 8401222
This application 15/943,337
is a CON of 13/786,699 03/06/2013 PAT 9329749
which is a CON of 12/470,984 05/22/2009 PAT 8401222

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: 04/26/2018

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/943,337**

Projected Publication Date: 08/09/2018

Non-Publication Request: No

Early Publication Request: No
Title

SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY

Preliminary Class

052

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign 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.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number
15/943,337

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(j))	19 minus 20 = *				OR	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 =		OR	x =	
Independent (37 CFR 1.16(h))	* Minus ***		=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))								
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						OR		
				TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

(Column 1)		(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 =		OR	x =	
Independent (37 CFR 1.16(h))	* Minus ***		=	x =		OR	x =	
Application Size Fee (37 CFR 1.16(s))								
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						OR		
				TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.



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United States Patent and Trademark Office
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/943,337	04/02/2018	Dale R. Thornberry	6338.439	7670

30589 7590 05/18/2018
DUNLAP CODDING, P.C.
PO BOX 16370
OKLAHOMA CITY, OK 73113

EXAMINER

FITZPATRICK, ATIBA O

ART UNIT	PAPER NUMBER
----------	--------------

2666

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

05/18/2018

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):

docketing@dunlapcoddington.com

Office Action Summary	Application No. 15/943,337	Applicant(s) THORNBERRY ET AL.	
	Examiner ATIBA O. FITZPATRICK	Art Unit 2666	AIA (First Inventor to File) Status No

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

Period for Reply

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

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

Status

- 1) ☒ Responsive to communication(s) filed on 04/02/2018.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-19 is/are pending in the application.
5a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) _____ is/are allowed.
- 7) ☒ Claim(s) 1-19 is/are rejected.
- 8) ☐ Claim(s) _____ is/are objected to.
- 9) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

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

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 04/02/2018 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

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

Attachment(s)

- | | |
|--|---|
| 1) ☐ Notice of References Cited (PTO-892) | 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date _____ | 4) ☐ Other: _____ |

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Double Patenting

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

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provisions of the AIA as explained in MPEP § 2159. See MPEP §§ 706.02(l)(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.

Claims 1-3, 4, 5-9, 10, 11-15, 16, and 17-19 rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-3, (4-10), 11-15, 1, 16-20, 16, and 21-23 of U.S. Patent No. 9933254. Although the claims at issue are not identical, they are not patentably distinct from each other because limitations of the application claims are present in the corresponding patent claims.

Allowable Subject Matter

Claims 1-23 would be allowable if rewritten or amended to overcome the non-statutory double patenting rejections set forth in this Office action. Also note that an appropriate terminal disclaimer will overcome this rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Atiba Fitzpatrick whose telephone number is (571) 270-5255. The examiner can normally be reached on M-F 10:00am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for Atiba Fitzpatrick is (571) 270-6255.

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.

Atiba Fitzpatrick

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/ATIBA O FITZPATRICK/

Primary Examiner, Art Unit 2668

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	2	12/470984.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L2	20	(THORNBERRY-DALE\$, THORNBERRY-CHRI \$\$, GARRI NGER-MARK\$).in.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/13 18:50
L3	42	("5319541" "6859768" "20100110074" "6496184" "20070150366" "5699444" "5625827" "6636803" "6798925" "20060282235" "7305983" "6446053" "7133551" "20100114537" "20100179787" "5633995" "6980690" "7324666" "7085400" "20030014224" "20020154174" "20060200311" "20090132436" "7003400" "6396491" "7239761" "20050038636" "7343268" "20080262789" "4497551" "7133570" "6766282" "7164883" "20080221843" "5995765" "7046839" "20050288959" "6323885" "6385541" "6836270" "7006977" "20080105045").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/13 18:50
L4	13	L3 and (marker mark\$3 index indicator tag\$4 label\$4 pin) near5 (moveable mov\$3 chang\$3 adjust\$4 updat\$3 alter\$3 vary\$3 modif\$4 edit\$4 calibrat\$4 refin\$4 tune tuning tuned fine\$2tun\$3 replac\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L5	29	L3 not L4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L6	10	roof with (image picture photograph\$4 frame video) and (latitud\$5 longitud\$5) with (image picture photograph\$4 frame video) with (plural\$3 poly many several numerous various multi dual multiple (more NEAR2 than) two three first second third all any every each additional subsequent another next) near2 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L7	6	roof with (image picture photograph\$4 frame video) and (latitud\$5 longitud\$5) with (image picture photograph\$4 frame video) with (database knowledge\$3base) and	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2018/05/13 18:50

		(plural\$3 poly many several numerous various multi dual multiple (more NEAR2 than) two three first second third all any every each additional subsequent another next) near2 (database knowledge\$3base) not L6	EPO; JPO; DERWENT; IBM_TDB			
L8	4	(US-20120120069-\$ or US-20100179787-\$ or US-20080262789-\$).did. or (US-8145578-\$).did.	US-PGPUB; USPAT	OR	ON	2018/05/13 18:50
L9	4	L8 and (plural\$3 poly many several numerous various multi dual multiple (more NEAR2 than) two three first second third all any every each additional subsequent another next) near2 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L10	42	("5319541" "6859768" "20100110074" "6496184" "20070150366" "5699444" "5625827" "6636803" "6798925" "20060282235" "7305983" "6446053" "7133551" "20100114537" "20100179787" "5633995" "6980690" "7324666" "7085400" "20030014224" "20020154174" "20060200311" "20090132436" "7003400" "6396491" "7239761" "20050038636" "7343268" "20080262789" "4497551" "7133570" "6766282" "7164883" "20080221843" "5995765" "7046839" "20050288959" "6323885" "6385541" "6836270" "7006977" "20080105045").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/13 18:50
L11	12	L10 and (plural\$3 poly many several numerous various multi dual multiple (more NEAR2 than) two three first second third all any every each additional subsequent another next) near2 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L12	0	roof with (image picture photograph\$4 frame video) and report\$4 with (latitud\$5 longitud\$5) with (image picture photograph\$4 frame video)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L13	31	roof with (image picture photograph\$4 frame video) and report\$4 with (latitud\$5 longitud\$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L14	8	(US-20100296693-\$ or US-20070107620-\$ or US-20050216147-\$ or US-20030095789-\$).did. or (US-7391956-\$ or US-7246007-\$ or US-6625383-\$ or US-6571052-\$).did.	US-PGPUB; USPAT	OR	ON	2018/05/13 18:50
L15	8	(US-20100296693-\$ or US-20070107620-\$ or US-20050216147-\$ or US-20030095789-\$).did. or (US-7391956-\$ or US-7246007-\$ or US-6625383-\$ or US-6571052-\$).did.	US-PGPUB; USPAT	OR	ON	2018/05/13 18:50
L16	8	L15 and report\$4 with (latitud\$5	US-PGPUB;	OR	ON	2018/05/13

		longitud\$5)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			18:50
L17	1	L10 and report\$4 with (latitud\$5 longitud\$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L18	20	L10 and (latitud\$5 longitud\$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L19	1	"20100110074".pn. and report\$4 with model\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L20	34	L10 and (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L21	2	"20100110074".pn. and (outlin\$4 contour\$4 border\$4 trac\$4 arm\$3 boundar\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L22	42	("5319541" "6859768" "20100110074" "6496184" "20070150366" "5699444" "5625827" "6636803" "6798925" "20060282235" "7305983" "6446053" "7133551" "20100114537" "20100179787" "5633995" "6980690" "7324666" "7085400" "20030014224" "20020154174" "20060200311" "20090132436" "7003400" "6396491" "7239761" "20050038636" "7343268" "20080262789" "4497551" "7133570" "6766282" "7164883" "20080221843" "5995765" "7046839" "20050288959" "6323885" "6385541" "6836270" "7006977" "20080105045").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/13 18:50
L23	3	(US-20060200311-\$ or US-20020154174- \$).did. or (US-6636803-\$).did.	US-PGPUB; USPAT	OR	ON	2018/05/13 18:50
L24	0	L23 and roof	US-PGPUB; USPAT; USOCR;	OR	ON	2018/05/13 18:50

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
L25	29	L22 and ("382"/\$, "345"/\$, "703"/\$, "715"/\$, "340"/\$).ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L26	691	nadir near4 (image picture frame scan video photogra\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L27	247	nadir adj1 (image picture frame scan video photogra\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L28	1	("20070220174").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/13 18:50
L29	6	(roof) near5 (image picture frame scan photogra\$4 picel pixel) with (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude) near5 (marker tag\$4 label\$4 pin) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L30	20	(roof) near5 (image picture frame scan photogra\$4 picel pixel) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude) near5 (marker tag\$4 label\$4 pin) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L31	14	L30 not L29	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L32	2	("20070220174").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/05/13 18:50
L33	18	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2018/05/13 18:50

		label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base) not L30	DERWENT; IBM_TDB			
L34	145	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4 label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (archiv\$4 stor\$3 sav\$3 record\$3 memor\$4 repository database) not (L30 L33)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L35	6	L34 and (G01B11/28; G06F17/5004; G06F3/04815; G06K9/00637; G06T7/602).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L36	84	(US-20150157468-\$ or US-20150151771-\$ or US-20130190981-\$ or US-20140368507-\$ or US-20140156049-\$ or US-20140015924-\$ or US-20130322767-\$ or US-20130293584-\$ or US-20120120103-\$ or US-20110205245-\$ or US-20070150366-\$ or US-20110001606-\$ or US-20030037812-\$ or US-20100114680-\$ or US-20090304227-\$ or US-20090046093-\$ or US-20060132291-\$ or US-20070019888-\$ or US-20060055991-\$ or US-20050267657-\$ or US-20050017537-\$ or US-20040247174-\$ or US-20040081355-\$ or US-20030137426-\$ or US-20030063004-\$ or US-20030019689-\$).did. or (US-6604606-\$ or US-6315180-\$ or US-6876390-\$ or US-6547304-\$ or US-6454049-\$ or US-6349249-\$ or US-6227603-\$ or US-6116485-\$ or US-5876064-\$ or US-5558389-\$ or US-5247357-\$ or US-5172228-\$ or US-4842316-\$ or US-4667565-\$ or US-4635136-\$ or US-4546530-\$ or US-4438878-\$ or US-4326726-\$ or US-3802354-\$ or US-3797670-\$ or US-3677192-\$).did. or (US-3460297-\$ or US-3418778-\$ or US-3395940-\$ or US-3371954-\$ or US-3321135-\$ or US-3279636-\$ or US-3186758-\$ or US-3186419-\$ or US-3180675-\$ or US-3161958-\$ or US-3160434-\$ or US-3143978-\$ or US-3141494-\$ or US-3096983-\$ or US-3085586-\$ or US-3069028-\$ or US-3053426-\$ or US-3011455-\$ or US-2895274-\$ or US-2882911-\$ or US-2860004-\$ or US-2723811-\$ or US-2715953-\$ or US-2576691-\$ or US-2513102-\$ or US-2414412-\$).did. or (US-2323665-\$ or US-2270506-\$ or US-2007514-\$ or US-1713503-\$ or US-1374386-\$).did. or (EP-0725326-\$ or CN-201539597-\$).did. or (EP-725326-\$).did. or (US-20150016689-\$).did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; DERWENT	OR	ON	2018/05/13 18:50
L37	82	L36 and (address\$4 position\$4 locat\$4	US-PGPUB;	OR	ON	2018/05/13

		placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4 label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (archiv\$4 stor\$3 sav\$3 record\$3 memor\$4 repository database)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			18:50
L38	20	(roof) near5 (image picture frame scan photogra\$4 picel pixel) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude) near5 (marker tag\$4 label\$4 pin) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L39	18	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4 label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base) not L38	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L40	145	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4 label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (archiv\$4 stor\$3 sav\$3 record\$3 memor\$4 repository database) not (L38 L39)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L41	160	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4 label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (retreiv\$4 provid\$4 access\$4 find\$3 get getting call) not (L40)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L42	135	L41 not (L38 L39)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L43	11	L42 and (G01B11/28; G06F17/5004; G06F3/04815; G06K9/00637; G06T7/602).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L44	3	(US-20100296693-\$ or US-20110282537-\$).did. or (US-8818770-\$).did.	US-PGPUB; USPAT	OR	ON	2018/05/13 18:50
L45	3	L44 and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4 label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (retreiv\$4 provid\$4 access\$4 find\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2018/05/13 18:50

		get getting call)	IBM_TDB			
L46	124	L42 not L43	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L47	376	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base) not (L38 L39 L40 L41)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L48	70	L47 and (G01B11/28; G06F17/5004; G06F3/04815; G06K9/00637; G06T7/602) .cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L49	15	(US-20120101783-\$ or US-20150094992-\$ or US-20100114537-\$ or US-20090208095-\$ or US-20140270355-\$ or US- 20140132635-\$ or US-20140025343-\$ or US-20130211790-\$ or US-20130110558-\$ or US-20100110074-\$ or US-20100257487-\$ or US-20100142748-\$ or US- 20080162380-\$).did. or (US-9135737-\$ or US-8731234-\$).did.	US-PGPUB; USPAT	OR	ON	2018/05/13 18:50
L50	15	L49 and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L51	192	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (archiv\$4 stor\$3 sav\$3 record\$3 memor\$4 repository database) near5 (image picture frame scan photogra\$4 picel pixel) near5 (retreiv\$4 provid\$4 access\$4 find\$3 get getting call) not (L38 L39 L40 L41 L48)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L52	0	L51 and (G01B11/28; G06F17/5004; G06F3/04815; G06K9/00637; G06T7/602) .cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L53	306	L47 not L48	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2018/05/13 18:50

			DERWENT; IBM_TDB			
L54	105	(US-20150242855-\$ or US-20150227775-\$ or US-20150213590-\$ or US-20150193972-\$ or US-20150149454-\$ or US-20150097924-\$ or US-20150066442-\$ or US-20150043828-\$ or US-20120121125-\$ or US-20140357428-\$ or US-20140316614-\$ or US-20140289323-\$ or US-20140282060-\$ or US-20140279868-\$ or US-20140258295-\$ or US-20140257943-\$ or US-20140036076-\$ or US-20140245210-\$ or US-20140236514-\$ or US-20090132436-\$ or US-20140176543-\$ or US-20140132409-\$ or US-20130293542-\$ or US-20110216953-\$ or US-20120120069-\$ or US-20140029802-\$).did. or (US-20140025199-\$ or US-20140019166-\$ or US-20080262789-\$ or US-20130296711-\$ or US-20130246204-\$ or US-20130230255-\$ or US-20130222369-\$ or US-20130204457-\$ or US-20130176401-\$ or US-20130064522-\$ or US-20120281913-\$ or US-20120221371-\$ or US-20110109719-\$ or US-20120156662-\$ or US-20120140063-\$ or US-20120086850-\$ or US-20120076358-\$ or US-20110292208-\$ or US-20110205084-\$ or US-20110137561-\$ or US-20110012900-\$ or US-20100322483-\$ or US-20100212979-\$ or US-20100062817-\$ or US-20070003162-\$ or US-20100036883-\$ or US-20100009735-\$).did. or (US-20090316939-\$ or US-20040029213-\$ or US-20090284553-\$ or US-20090259567-\$ or US-20090216552-\$ or US-20090171822-\$ or US-20090132316-\$ or US-20090112389-\$ or US-20090100767-\$ or US-20080266142-\$ or US-20080249702-\$ or US-20080204570-\$ or US-20080172955-\$ or US-20080152216-\$ or US-20070140595-\$ or US-20060152592-\$ or US-20060137736-\$ or US-20060132605-\$ or US-20060056732-\$ or US-20050231507-\$ or US-20050203768-\$ or US-20040215660-\$ or US-20030216953-\$ or US-20030076414-\$ or US-20020164962-\$ or US-20020154213-\$ or US-20020134151-\$).did. or (US-20020084891-\$ or US-20020065046-\$ or US-20020040356-\$ or US-20020009978-\$ or US-20010049592-\$).did. or (US-9135752-\$ or US-7983474-\$ or US-6509750-\$ or US-6812851-\$ or US-6002499-\$ or US-6241288-\$ or US-5748865-\$ or US-5835386-\$ or US-5831876-\$ or US-5818737-\$ or US-5815417-\$ or US-5809161-\$ or US-5808916-\$ or US-5734337-\$ or US-5259037-\$).did. or (KR-100818340-\$).did. or (US-20140125664-\$ or US-20140019166-\$ or US-20080262789-\$ or KR-818340-\$).did.	US-PGPUB; USPAT; FPRS; DERWENT	OR	ON	2018/05/13 18:50
L55	105	L54 and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4	US-PGPUB; USPAT;	OR	ON	2018/05/13 18:50

		latitude longitude lat lon) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
L56	96	L51 not L47	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L57	60	(US-20140204215-\$ or US-20130201365-\$ or US-20130195314-\$ or US-20130144427-\$ or US-20130116968-\$ or US-20110122520-\$ or US-20100199915-\$ or US-20100149782-\$ or US-20070065259-\$ or US-20060146120-\$ or US-20020156559-\$ or US-20070091183-\$ or US-20070057530-\$ or US-20060120565-\$ or US-20050285428-\$ or US-20050196258-\$ or US-20050080702-\$ or US-20050071376-\$ or US-20040222658-\$ or US-20040155480-\$ or US-20030101237-\$ or US-20030095789-\$ or US-20030081123-\$ or US-20030057749-\$ or US-20020063725-\$).did. or (US-7774268-\$ or US-6400835-\$ or US-7855662-\$ or US-7602947-\$ or US-6917693-\$ or US-6580373-\$ or US-6571052-\$ or US-6473126-\$ or US-6375222-\$ or US-6360930-\$ or US-6215518-\$ or US-6198502-\$ or US-6131343-\$ or US-6067078-\$ or US-5835241-\$ or US-5764383-\$ or US-5760925-\$ or US-5726775-\$ or US-5551743-\$ or US-5080426-\$ or US-5039153-\$ or US-4746163-\$ or US-4671315-\$ or US-4290083-\$ or US-3957301-\$ or US-3841221-\$).did. or (US-3557712-\$).did. or (US-3282192-\$ or US-3206725-\$ or US-2925859-\$ or US-1605220-\$).did. or (WO-0224565-\$).did. or (CA-2546882-\$ or US-20050017537-\$ or WO-0224565-\$).did.	US-PGPUB; USPAT; USOCR; FPRS; DERWENT	OR	ON	2018/05/13 18:50
L58	0	L57 and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L59	60	L57 and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (archiv\$4 stor\$3 sav\$3 record\$3 memor\$4 repository database) near5 (image picture frame scan photogra\$4 picel pixel) near5 (retreiv\$4 provid\$4 access\$4 find\$3 get getting call)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L60	22	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2018/05/13 18:50

		longitude lat lon) same (high\$3 great\$3 increas\$4 more above superior better best) near5 (resolution resolv\$4) with (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	EPO; JPO; DERWENT; IBM_TDB			
L61	22	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (high\$3 great\$3 increas\$4 more above superior better best) near5 (resolution resolv\$4) with (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L62	6	(US-20140237430-\$ or US-20140019166-\$ or US-20100296693-\$ or US-20120086850-\$ or US-20060137736-\$).did. or (US-20140019166-\$).did.	US-PGPUB; DERWENT	OR	ON	2018/05/13 18:50
L63	6	L62 and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (high\$3 great\$3 increas\$4 more above superior better best) near5 (resolution resolv\$4) with (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L64	4	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (roof) with (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) and (high\$3 great\$3 increas\$4 more above superior better best) near5 (resolution resolv\$4) with (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base) not L61	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L65	20	(THORNBERRY-DALE\$, THORNBERRY-CHRI S\$, GARRINGER-MARK\$).in.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/13 18:50
L66	4	L65 and (super\$3resolution resolution resolv\$4).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L67	1	("7920963" "ApplicationNumber" "PB1LeCompteetal." "PB2Remboskietal." "PB3Meleroetal." "PB4Xlonqetal" "PB5Bakewell" "PB6Schultzetal." "PB7HelOr" "PB8Yamauchietal." "PB9Matsumoto" "PB10Palmeretal." "PB11Kimchietal" "PB12Kosekietal" "PB13Lagassey" "PB14Balfour" "PB15Smitherman" "PB16Schultzetal." "PB17Murataetal" "PB18Guoetal." "PB19Smithermanetal." "PB20Rosenfeldetal." "PB21Steedlyetal." "PB22Schultzetal." "PB23Hochartetal" "PB24Kennedyetal." "PB25Zebedin" "PB26Shimamuraetal." "PB27Thornberretal." "PB28hornberryetal." "PB29Nimsetal." "PB30").PN.	US-PGPUB; USPAT	OR	ON	2018/05/13 18:50

L68	174	(2273876 3153784 3594556 3614410 3621326 3661061 3716669 3725563 3864513 3866602 3877799 4015080 4044879 4184711 4240108 4281354 4344683 4360876 4382678 4387056 4396942 4463380 4489322 4490742 4491399 4495500 4527055 4543603 4586138 4635136 "4653136").pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L69	33	(2273876 3153784 3594556 3614410 3621326 3661061 3716669 3725563 3864513 3866602 3877799 4015080 4044879 4184711 4240108 4281354 4344683 4360876 4382678 4387056 4396942 4463380 4489322 4490742 4491399 4495500 4527055 4543603 4586138 4635136 "4653136").pn.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/13 18:50
L70	33	(2273876 3153784 3594556 3614410 3621326 3661061 3716669 3725563 3864513 3866602 3877799 4015080 4044879 4184711 4240108 4281354 4344683 4360876 4382678 4387056 4396942 4463380 4489322 4490742 4491399 4495500 4527055 4543603 4586138 4635136 "4653136").pn.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/13 18:50
L71	191	((("4,653,316") or ("4,673,988") or ("4,686,474") or ("4,688,092") or ("4,689,748") or ("4,707,698") or ("4,758,850") or ("4,805,033") or ("4,807,024") or ("4,814,711") or ("4,814,896") or ("4,843,463") or ("4,899,296") or ("4,906,198") or ("4,953,227") or ("4,956,872") or ("5,034,812") or ("5,086,314") or ("5,121,222") or ("5,138,444") or ("5,155,597") or ("5,164,825") or ("5,166,789") or ("5,191,174") or ("5,200,793") or ("5,210,586") or ("5,231,435") or ("5,247,356") or ("5,251,037") or ("5,265,173") or ("5,267,042") or ("5,270,756") or ("5,296,884") or ("5,335,072") or ("5,342,999") or ("5,345,086") or ("5,353,055") or ("5,369,443") or ("5,402,170") or ("5,414,462") or ("5,467,271") or ("5,481,479") or ("5,486,948") or ("5,506,644") or ("5,508,736"))).PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/05/13 18:50
L72	45	((("4,653,316") or ("4,673,988") or ("4,686,474") or ("4,688,092") or ("4,689,748") or ("4,707,698") or ("4,758,850") or ("4,805,033") or ("4,807,024") or ("4,814,711") or ("4,814,896") or ("4,843,463") or ("4,899,296") or ("4,906,198") or ("4,953,227") or ("4,956,872") or ("5,034,812") or ("5,086,314") or ("5,121,222") or ("5,138,444") or ("5,155,597") or ("5,164,825") or ("5,166,789") or ("5,191,174") or ("5,200,793") or ("5,210,586") or ("5,231,435") or ("5,247,356") or ("5,251,037") or ("5,265,173") or	US-PGPUB; USPAT; USOCR	OR	OFF	2018/05/13 18:50

		("5,267,042") or ("5,270,756") or ("5,296,884") or ("5,335,072") or ("5,342,999") or ("5,345,086") or ("5,353,055") or ("5,369,443") or ("5,402,170") or ("5,414,462") or ("5,467,271") or ("5,481,479") or ("5,486,948") or ("5,506,644") or ("5,508,736")).PN.				
L73	39	("5,555,018") or ("5,604,534") or ("5,617,224") or ("5,633,946") or ("5,668,593") or ("5,677,515") or ("5,798,786") or ("5,835,133") or ("5,841,574") or ("5,844,602") or ("5,852,753") or ("5,894,323") or ("5,899,945") or ("5,963,664") or ("6,037,945") or ("6,088,055") or ("6,094,215") or ("6,097,854") or ("6,108,032") or ("6,130,705") or ("6,157,747") or ("6,167,300") or ("6,222,583") or ("6,236,886") or ("6,256,057") or ("6,373,522") or ("6,434,280") or ("6,597,818") or ("6,639,596") or ("6,421,610") or ("6,731,329") or ("6,711,475") or ("6,747,686") or ("6,810,383") or ("6,816,819") or ("6,826,539") or ("6,829,584") or ("6,834,128") or ("6,876,763") or ("7,009,638") or ("7,018,050") or ("7,046,401") or ("7,061,650") or ("7,065,260") or ("7,123,382")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/05/13 18:50
L74	13	("7,127,348") or ("7,142,984") or ("7,233,691") or ("7,262,790") or ("7,348,895") or ("8,078,396") or ("7,509,241") or ("7,133,551") or ("7,728,833") or ("7,832,267") or ("7,844,499,") or ("7,184,072") or ("8,705,843")).PN. or ((2002/0041328) or (2003/0043824) or (2003/0088362) or (2002/0114536) or (2003/0214585) or (2004/0105090) or (2005/0169521) or (2005/0073241) or (2005/0088251) or (2006/0028550) or (2006/0238383) or (2006/0250515) or (2006/0092043) or (2007/0024612) or (2007/0046448) or (2008/0123994) or (2002/0041717) or (2003/0014224) or (2004/0167709) or (2008/0120031) or (2007/0237420) or (2004/0105090) or (2009/0177458) or (2009/0304227) or (2009/0208095) or (2011/0033110)).OCLS.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/05/13 18:50
L75	38	("7,127,348") or ("7,142,984") or ("7,233,691") or ("7,262,790") or ("7,348,895") or ("8,078,396") or ("7,509,241") or ("7,133,551") or ("7,728,833") or ("7,832,267") or ("7,844,499,") or ("7,184,072") or ("8,705,843") or ("20020041328") or ("20030043824") or ("20030088362") or ("20020114536") or ("20030214585") or ("20040105090") or ("20050169521") or ("20050073241") or ("20050088251") or ("20060028550") or ("20060238383") or	US-PGPUB; USPAT; USOCR	OR	OFF	2018/05/13 18:50

		("20060250515") or ("20060092043") or ("20070024612") or ("20070046448") or ("20080123994") or ("20020041717") or ("20030014224") or ("20040167709") or ("20080120031") or ("20070237420") or ("20040105090") or ("20090177458") or ("20090304227") or ("20090208095") or ("20110033110")).PN.				
L76	42	((("7,127,348") or ("7,142,984") or ("7,233,691") or ("7,262,790") or ("7,348,895") or ("8,078,396") or ("7,509,241") or ("7,133,551") or ("7,728,833") or ("7,832,267") or ("7,844,499,") or ("7,184,072") or ("8,705,843") or ("20020041328") or ("20030043824") or ("20030088362") or ("20020114536") or ("20030214585") or ("20040105090") or ("20050169521") or ("20050073241") or ("20050088251") or ("20060028550") or ("20060238383") or ("20060250515") or ("20060092043") or ("20070024612") or ("20070046448") or ("20080123994") or ("20020041717") or ("20030014224") or ("20040167709") or ("20080120031") or ("20070237420") or ("20040105090") or ("20090177458") or ("20090304227") or ("20090208095") or ("20110033110") or ("20100296693") or ("20130246204") or ("20030164962") or ("20080158256"))).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2018/05/13 18:50
L77	159	L69 L72 L73 L76	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L78	92	L77 and (\$6resolution \$6resolv\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50
L79	78	L77 and (high\$3 great\$3 increas\$4 more above superior better best) near7 (\$6resolution \$6resolv\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/13 18:50

<i>Index of Claims</i> 	Application/Control No. 15943337	Applicant(s)/Patent Under Reexamination THORNBERRY ET AL.
	Examiner ATIBA O FITZPATRICK	Art Unit 2666

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

☐ Claims renumbered in the same order as presented by applicant		☐ CPA		☐ T.D.		☐ R.1.47					
CLAIM		DATE									
Final	Original	05/13/2018									
	1	✓									
	2	✓									
	3	✓									
	4	✓									
	5	✓									
	6	✓									
	7	✓									
	8	✓									
	9	✓									
	10	✓									
	11	✓									
	12	✓									
	13	✓									
	14	✓									
	15	✓									
	16	✓									
	17	✓									
	18	✓									
	19	✓									

Bibliographic Data

Application No: 15/943,337

Foreign Priority claimed: ☐ Yes ☒ No

35 USC 119 (a-d) conditions met: ☐ Yes ☐ No ☐ Met After Allowance

Verified and Acknowledged: /ATIBA O FITZPATRICK/

Examiner's Signature

Initials

Title:

SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
04/02/2018	382	2666	6338.439
RULE			

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Chris T. Thornberry Indianapolis, IN, UNITED STATES

Mark F. Garringer Eaton, IN, UNITED STATES

CONTINUING DATA

This application is a CON of 15005977 01/25/2016 PAT 9933254

15005977 is a CON of 14018943 09/05/2013 PAT 9244589

This application is a CON of 13786699 03/06/2013 PAT 9329749

14018943 is a CON of 13774478 02/22/2013 PAT 8542880

13786699 is a CON of 12470984 05/22/2009 PAT 8401222

13774478 is a CON of 12470984 05/22/2009 PAT 8401222

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

04/26/2018

STATE OR COUNTRY

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UNITED STATES

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\$1,880

Substitute for form 1449/PTO
PTO/SB/08A and 08B
Form 6-2 and Form 6-2.1

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as
necessary)

Complete if Known

Application No.

Filing Date

First Named Inventor

Dale R. Thornberry

Art Unit

Unknown

Examiner Name

Unknown

Attorney Docket No.

6338.429

U. S. PATENT APPLICATION DOCUMENTS

EXAM INIT.	Cite No. ¹	Patent Number Number-Kind Code ¹ (if known)	Name of Patentee or Applicant of Cited Document	Issue Date MM/DD/YYYY	

U. S. PATENT APPLICATION PUBLICATION DOCUMENTS

EXAM INIT.	Cite No. ¹	Publication Number Number-Kind Code ¹ (if known)	Name of Patentee or Applicant of Cited Document	Publications Date MM/DD/YYYY	
	PB100	2007/0220174	Abhyanker	09/20/2007	
	PB101	2014/0025343	Gregg et al.	01/23/2014	
	PB102	2007/0106523	Eaton et al.	05/10/2007	
	PB103	2005/0033716	Ambroz et al.	02/10/2005	

FOREIGN PATENT DOCUMENTS

EXAM INIT.	Cite No. ¹	Foreign Document No.² Country Code ² - Kind Code ⁴ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM- DD-YYY	T ⁵

NON-PATENT DOCUMENTS

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

EXAM INIT.	Cite Number	
	NPL100	USPTO, Office Action regarding U.S. Patent Application Serial Number 13/915,285 (Atty. Dkt. 6338.217), April 9, 2015.

Substitute for form 1449/PTO
PTO/SB/08A and 08B
Form 6-2 and Form 6-2.1

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as
necessary)

Complete if Known

Application No.

Filing Date

First Named Inventor

Dale R. Thornberry

Art Unit

Unknown

Examiner Name

Unknown

Attorney Docket No.

6338.429

EXAM INIT.	Cite Number	NON-PATENT DOCUMENTS 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
	NPL101	APPLICANT, Response to Office Action regarding U.S. Patent Application Serial Number 13/915,285 (Atty. Dkt. 6338.217), October 9, 2015.
	NPL102	USPTO, Office Action regarding U.S. Patent Application Serial Number 13/915,285 (Atty. Dkt. 6338.217), December 16, 2015.
Examiner Signature: /ATIBA O FITZPATRICK/		Date Considered: 05/13/2018
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Unique citation designation number. 2 Applicant is to place a check mark here if English language Translation is attached.		

Substitute for form 1449/PTO
PTO/SB/08A and 08B
Form 6-2 and Form 6-2.1

**SUPPLEMENTAL
INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Use as many sheets as
necessary)

Complete if Known

Application No.	
Filing Date	Herewith
First Named Inventor	Dale R. Thornberry
Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket No.	6338.439

U. S. PATENT APPLICATION DOCUMENTS

EXAM INIT.	Cite No. ¹	Patent Number Number-Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Issue Date MM/DD/YYYY	
	P1	7,920,963	JOULINE et al.	04/05/2011	

U. S. PATENT APPLICATION PUBLICATION DOCUMENTS

EXAM INIT.	Cite No. ¹	Publication Number Number-Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Publications Date MM/DD/YYYY	

FOREIGN PATENT DOCUMENTS

EXAM INIT.	Cite No. ¹	<u>Foreign Document No.</u> ³ Country Code ⁴ - Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM/DD/YYYY	T ⁶

NON-PATENT DOCUMENTS

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	NPL01	XACTWARE SOLUTIONS, INC., Petition for <i>inter partes</i> review of U.S. patent No. 8,542,880, IPR2016-00594, Mail Date 02/08/2016.
	NPL02	PICTOMETRY INTERNATIONAL CORP., Electronic Field Study User Guide Version 2.7 (as filed as Exhibit-1004 in IPR2016-00594), July 2007.

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Complete if Known

Application No.	
Filing Date	Herewith
First Named Inventor	Dale R. Thornberry
Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket No.	6338.439

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	NPL03	HSIEH, YUAN, Design and Evaluation of a Semi-Automated Site Modeling System (as filed as Exhibit-1005 in IPR2016-00594), November 1995.
	NPL04	SCHUCH, HAROLD, Declaration in support of Petition for <i>inter partes</i> review of U.S. patent No. 8,542,880, IPR2016-00594 (as filed as Exhibit-1006 in IPR2016-00594), Mail Date 02/08/2016.
	NPL05	EAGLE VIEW TECHNOLOGIES, INC., and PICTOMETRY INTERNATIONAL CORP; Complaint for infringement of U.S. Patent 8,542,880 in litigation (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025- RBK-JS, filing date 09/23/2015.
	NPL06	XACTWARE SOLUTIONS, INC., AND VERISK ANALYTICS, INC., Answer to Complaint for infringement of U.S. Patent 8,542,880 in litigation (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025- RBK-JS, filing date 11/12/2015.
	NPL07	EAGLE VIEW TECHNOLOGIES, INC., and PICTOMETRY INTERNATIONAL CORP; Amended Complaint for infringement of U.S. Patent 8,542,880 in litigation (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025-RBK-JS, filing date 11/30/2015.

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	NPL08	XACTWARE SOLUTIONS, INC., AND VERISK ANALYTICS, INC., Amended Answer, Affirmative Defenses, Counterclaims to Amended Complaint for infringement of U.S. Patent 8,542,880 in litigation (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025-RBK-JS, filing date 12/14/2015.
	NPL09	XACTWARE SOLUTIONS, INC., AND VERISK ANALYTICS, INC., Motion to Dismiss Complaint for infringement of U.S. Patent 8,542,880 under 35 U.S.C. 101 and supporting Memorandum in litigation (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025-RBK-JS, filing date 02/09/2016.
	NPL10	XACTWARE SOLUTIONS, INC., AND VERISK ANALYTICS, INC., Invalidity Contentions regarding U.S. Patent 8,542,880 in litigation (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025-RBK-JS, filing date 02/09/2016.
	NPL11	EAGLE VIEW TECHNOLOGIES, INC., AND PICTOMETRY INTERNATIONAL CORP., Response with Claim Charts to Invalidity Contentions regarding U.S. Patent 8,542,880 in litigation (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025-RBK-JS, dated 03/10/2016.

Examiner Signature: /ATIBA O FITZPATRICK/

Date Considered: 05/13/2018

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	NPL01	EAGLE VIEW TECHNOLOGIES, INC., AND PICTOMETRY INTERNATIONAL CORP., Response in Opposition to Motion to Dismiss Complaint for infringement of U.S. Patent 8,542,880 under 35 U.S.C. 101 (Eagle View Technologies, Inc., and Pictometry International Corp. v. Xactware Solutions, Inc., and Verisk Analytics, Inc.) in the United States District Court District of New Jersey, case number njd-1-15-cv-07025-RBK-JS, filing date 03/22/2016.

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	NPL1	PICTOMETRY INTERNATIONAL CORP., Patent Owner's Preliminary Response to petition for <i>inter partes</i> review of U.S. patent No. 8,542,880, IPR2016- 00594, Filed June 2, 2016.

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	NPL01	PATENT TRIAL AND APPEAL BOARD, Decision to institute <i>inter partes</i> review of claims 1-10 and 13-20 of U.S. patent No. 8,542,880, IPR2016-00594, Paper 13, Mail Date 08/31/2016.
	NPL02	PICTOMETRY INTERNATIONAL CORP., Patent Owner Response filed in IPR2016-00594, November 16, 2016.
	NPL03	BAJAJ, Declaration of Dr. Chandrajit Bajaj, as filed as Exhibit-2006 in IPR2016-00594 on November 16, 2016.
	NPL04	Deposition of Mr. Harold Schuch of November 2, 2016, as filed as Exhibit-2005 in IPR2016-00594 on November 16, 2016.

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	NPL05	CARR et al., Cohasset Town Report, 2008, as filed as Exhibit-2010 in IPR2016-00594 on November 16, 2016.
	NPL06	ANONYMOUS, LARIAC1 Pictometry Training webpage printout, dated 2009, as filed as Exhibit-2011 in IPR2016-00594 on November 16, 2016.
	NPL07	LOS ANGELES COUNTY et al., LAR-IAC2 Product Guide, dated February 2009, as filed as Exhibit-2012 in IPR2016-00594 on November 16, 2016.
	NPL08	ANONYMOUS; Los Angeles County Extends its License Agreement with Pictometry for New Oblique Aerial Photos; dated March 7, 2006; as filed as Exhibit-2013 in IPR2016-00594 on November 16, 2016.
	NPL09	HORAN; Pictometry Administrative Training; as filed as Exhibit-2014 in IPR2016-00594 on November 16, 2016.
	NPL10	UNKNOWN; Screenshot of File Info sheet entitled "Information about TXWILMAdministrative Training"; as filed as Exhibit-2015 in IPR2016-00594 on November 16, 2016.
	NPL11	UNKNOWN; Description of Pictometry Training; as filed as Exhibit-2016 in IPR2016-00594 on November 16, 2016.
	NPL12	APGAR; GIS Working Group Meeting Minutes 2007; as filed as Exhibit-2019 in IPR2016-00594 on November 16, 2016.
	NPL13	ASIMONYE; Geospatial Information Systems Council - Pictometry: Oblique Imagery training, dated April 2009; as filed as Exhibit-2020 in IPR2016-00594 on November 16, 2016.
	NPL14	UNKNOWN; Pictometry License Guidelines; dated 01/26/2005; as filed as Exhibit-2021 in IPR2016-00594 on November 16, 2016.
	NPL15	UNKNOWN; Pictometry presentation dated April 19, 2007; as filed as Exhibit-2022 in IPR2016-00594 on November 16, 2016.

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Art Unit	Unknown
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	NPL16	LANCTOT; Welcome to Your End User Training; as filed as Exhibit-2023 in IPR2016-00594 on November 16, 2016.
	NPL17	PICTOMETRY INTERNATIONAL CORP.; Electronic Field Study Getting Started Guide; dated July 2007; as filed as Exhibit-2024 in IPR2016-00594 on November 16, 2016.
	NPL18	GISUSER; Pictometry Announces Technical Advancements for GIS Professionals; dated December 5, 2006; Spatial Media; as filed as Exhibit-2025 in IPR2016-00594 on November 16, 2016.
	NPL19	UNKNOWN; Pictometry Announces Technical Advancements for GIS Professionals; dated December 7, 2006; Directions Media; as filed as Exhibit-2026 in IPR2016-00594 on November 16, 2016.
	NPL20	BITTER et al.; Macmillan Encyclopedia of Computers; Macmillan Publishing Company; 1992; Volume 1; pp. 230-231; as filed as Exhibit-2027 in IPR2016-00594 on November 16, 2016.
	NPL21	PICTOMETRY INTERNATIONAL CORP. et al.; Metropolitan Area Planning Council License Agreement; 2009; as filed as Exhibit-2009 in IPR2016-00594 on November 16, 2016.

Examiner Signature: /ATIBA O FITZPATRICK/

Date Considered: 05/13/2018

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	NPL01	PATENT TRIAL AND APPEAL BOARD, Final Written Decision in <i>inter partes</i> review of claims 1-10 and 13-20 of U.S. patent No. 8,542,880, IPR2016-00594, Paper 46, August 24, 2017.
	NPL02	XACTWARE SOLUTIONS, INC., Petitioner's Reply to Patent Owner Response in <i>inter partes</i> review of claims 1-10 and 13-20 of U.S. patent No. 8,542,880, IPR2016-00594, Paper 33, January 27, 2017.
	NPL03	USPTO, Office Action regarding Application No. 13/915,285 (Atty. Dkt. 6338.217), Mail Date April 10, 2017.

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	P2	5,319,541	Blanchard et al.	06/07/1994	
	P3	5,625,827	Krause et al.	04/29/1997	
	P4	5,633,995	McClain	05/27/1997	
	P5	5,699,444	Palm	12/16/1997	
	P6	5,995,765	Kaneko et al.	11/30/1999	
	P7	6,323,885	Wiese	11/27/2001	
	P8	6,385,541	Blumberg et al.	05/07/2002	
	P9	6,396,491	Watanabe et al.	05/28/2002	
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	PB2	2005/0038636	Wakelam et al.	02/17/2005
	PB3	2005/0288959	Eraker et al.	12/29/2005
	PB4	2006/0200311	Arutunian et al.	09/07/2006
	PB5	2006/0282235	Thomas et al.	12/14/2006
	PB6	2008/0105045	Woro	05/08/2008
	PB7	2008/0221843	Shenkar et al.	09/11/2008
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	PB9	2009/0132436	Pershing et al.	05/21/2009	
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	PB11	2010/0114537	Pershing	05/06/2010	
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	PB13	2009/0141020	Freund et al.	06/04/2009	

FOREIGN PATENT DOCUMENTS

EXAM INIT.	Cite No. ¹	Foreign Document No. ² Country Code ⁴ - Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM- DD-YYY	T ⁶
	F1	WO20000029806	Friedhelm et al.	05/25/2000	
	F2	AU2008230031	Eagle View Technologies, Inc.	11/05/2009	
	F3	AU2010219392	Eagle View Technologies, Inc.	09/30/2010	

NON-PATENT DOCUMENTS

EXAM INIT.	Cite No. ¹	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.
	NPL1	OLOF HENRICSSON, The Role of Color Attributes and Similarity Grouping in 3-D Building Reconstruction, Institute of Photogrammetry and Geodesy, Zurich, Switzerland
	NPL2	CC-Modeler: a topology generator for 3-D city models, abstract, May 15, 1998
	NPL3	ARMIN GRUEN and HINHUA WANG; CC-Modeler: A Topology Generator for 3-D City Models, Inst. of Geodesy and Photogrammetry, Zurich, Switzerland
	NPL4	MICROSOFT'S MSN VIRTUAL EARTH: The Map is the Search Platform; February 6, 2009

Substitute for form 1449/PTO
PTO/SB/08A and 08B
Form 6-2 and Form 6-2.1

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as
necessary)

Complete if Known	
Application No.	
Filing Date	Herewith
First Named Inventor	Dale R. Thornberry
Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket No.	6338.439

NON-PATENT DOCUMENTS

EXAM INIT.	Cite No. ¹	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.
	NPL5	EAGLE VIEW TECHNOLOGIES; Eagle View Measurements Premium Report; October 22, 2008
	NPL6	"Automatic House Reconstruction", http://www.vision.ee.ethz.ch/projects/Amobe_l/recons.html , accessed 3/15/2010
	NPL7	"PhotoModeler-Measure and Model Real-World Objects From Photographs", http://www.photomodeler.com/products/photomodeler.htm , accessed on 03/15/2010.
	NPL8	Baillard C. et al., "Automatic Reconstruction Of Piecewise Planar Models From Multiple Views", Dept. of Engineering Science, University of Oxford
	NPL9	Chevrier C., et al., "Interactive 3D Reconstruction For Urban Areas: An Image Based Tool", CAAD Futures 2001.pp. 1-13.
	NPL10	Debevec, Paul E. et al., "Modeling and Rendering Architecture From Photographs: A Hybrid Geometry-And-Image Based Approach", University of California at Berkeley, 1996.
	NPL11	"Pictometry Announces Software and Web-based Solution For Engineers, Architects, and Planners", Press Release dated January 22, 2004, Rochester, NY.
	NPL12	Automated Systems Research, http://www.asrsoft.com/about.html , accessed 5/22/2009
	NPL13	Claim Rep Measure Roof, http://www.claimrep.com/roofSize.htm , accessed on 5/22/2009
	NPL14	GeoSpan Aerial Imagery, http://www.geospan.com/products-services.asp , accessed on 5/22/2009

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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First Named Inventor	Dale R. Thornberry
Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket No.	6338.439

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	NPL15	GULCH, E., MULLER, H., LABE, T., RAGIA, L., "On The Performance Of Semi-Automatic Building Extraction", University Bonn, Germany, 1998.
	NPL16	How To Calculate Roof Pitches in 3D From 2D Drawings, 12/17/2007, http://connected.typepad.com/connected/2007/12/how-to-calculat.html , accessed on 5/22/2009
	NPL17	http://eagleviewmeasurements.com , "Eagle View Roof Measurement" accessed 5/22/2009
	NPL18	http://estimagic.com/roofing/about-roofing-estimating.html , "About Estimagic Roof Estimator", accessed 08/22/2008
	NPL19	MILLER, Mark R., "Miller's Guide To Framing And Roofing, McGraw-Hill Companies, Inc., New York, 2005, pp. 131-136, 162-163.
	NPL20	Pictometry Online Demo, www.youtube.com/watch?v=JURSK7oOODO , accessed on 2/6/2009
	NPL21	Precigeo, http://www.precigeo.com/ , accessed on 5/22/2009
	NPL22	Roof Area Calculator, http://www.construction-resource.com/calculators/roof-area.php , accessed on 5/22/2009
	NPL23	Roof Master Roof Estimating Software, http://www.vectortec.com/roofmaster_roofing_estimating_software.htm , accessed on 5/22/2009
	NPL24	Rooflogic Drawings and Takeoffs From Satellite Images, http://www.rooflogic.com/Products/Satellite/ , accessed on 5/22/2009
	NPL25	SkyTek Imaging, http://www.skytekimaging.com/ourservices.html , accessed on 5/22/2009

Substitute for form 1449/PTO
PTO/SB/08A and 08B
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	NPL26	SNYDER, J., BARR, A., "Ray Tracing Complex Models Containing Surface Tessellations", California Institute of Technology, Pasadena, CA July 1987, pp. 119-128.
	NPL27	Somay Roof Calculator, http://www.somay.com/roof_coatings/roof_calculate/roof_calculate.html , accessed on 5/22/2009
	NPL28	VINCENTY, T., "Direct And Inverse Solutions Of Geodesics On The Ellipsoid With Application Of Nested Equations", Warren AFB, Wyoming, April 1975, pp. 88-93.
	NPL29	Ways To Determine or Calculate Roof Pitch or Roof Slope Using a Carpenters Level, http://roofgenius.com/roofpitch.htm , accessed 5/22/2009
	NPL30	Delaney, Kevin J., "Searching For Clients From Above", The Wall Street Journal, July 31, 2007.
	NPL31	Faugeras et al., "3-D Reconstruction of Urban Scenes From Image Sequences", INRIA, 2004, France, Sept. 11, 1997.
	NPL32	Henricsson, O. et al., "3-D Building Reconstruction with ARUBA: A Qualitative and Quantitative Evaluation," Institute of Geodesy and Photogrammetry, Switzerland, 1997, 12 pages.
	NPL33	http://www.precigeo.com/ , "Solar Professionals, Insurance Adjusters, Roofing and Landscape Estimators: Use Precigeo To Get Rapid, Accurate and Visually Compelling Sketches and Measurements, accessed on 3/15/10.
	NPL34	Poullis et al., "Photogrammetric Modeling And Image-Based Rendering For Rapid Virtual Environment Creation", University of Southern California, Institute For Creative Technologies

Substitute for form 1449/PTO
PTO/SB/08A and 08B
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Art Unit	Unknown
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EXAM INIT.	Cite No. ¹	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.
	NPL35	Scholze, Stephan, "A Probabilistic Approach To Building Roof Reconstruction", A Dissertation Submitted To The Swiss Federal Institute Of Technology Zurich, 2002.
	NPL36	Ziegler et al., 3D Reconstruction Using Labeled Image Regions, Eurographics Symposium on Geometry Processing, 2003.

Examiner Signature: /ATIBA O FITZPATRICK/

Date Considered: 05/13/2018

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

1 Applicant's unique citation designation number.

2 See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04.

3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible.

6 Applicant is to place a check mark here if English language Translation is attached.

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Form 6-2 and Form 6-2.1

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Use as many sheets as
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Complete if Known

Application No.	
Filing Date	Herewith
First Named Inventor	Dale R. Thornberry
Art Unit	
Examiner Name	
Attorney Docket No.	6338.439

U. S. PATENT APPLICATION DOCUMENTS

EXAM INIT.	Cite No. ¹	Patent Number Number-Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Issue Date MM/DD/YYYY	

U. S. PATENT APPLICATION PUBLICATION DOCUMENTS

EXAM INIT.	Cite No. ¹	Publication Number Number-Kind Code ² (if known)	Name of Patentee or Applicant of Cited Document	Publications Date MM/DD/YYYY	

FOREIGN PATENT DOCUMENTS

EXAM INIT.	Cite No. ¹	Foreign Document No. ³ Country Code ⁴ - Kind Code ⁵ (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM- DD-YYY	T ⁶

NON-PATENT DOCUMENTS

EXAM INIT.	Cite No. ¹	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.
	NPL01	XACTWARE SOLUTIONS, INC., Brief on Behalf of Appellant, IPR2016-00593 and IPR2016-00594, filed 03/05/2018.

Examiner Signature: /ATIBA O FITZPATRICK/

Date Considered: 05/13/2018

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

¹ Applicant's unique citation designation number.

² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04.

³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document.

⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible.

⁶ Applicant is to place a check mark here if English language Translation is attached.

Search Notes 	Application/Control No. 15943337	Applicant(s)/Patent Under Reexamination THORNBERRY ET AL.
	Examiner ATIBA O FITZPATRICK	Art Unit 2666

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

* 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
inventor search	5/13/2018	AF
EAST keyword search	5/13/2018	AF
G01B11/28; G06F17/5004; G06F3/04815; G06K9/00637; G06T7/602 combined with keyword search	5/13/2018	AF

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

	/ATIBA O FITZPATRICK/ Primary Examiner.Art Unit 2666
--	---

ELECTRONICALLY TRANSMITTED: August 6, 2018

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 15/943,337

Confirmation No.: 7670

First Named Inventor: Dale R. Thornberry

Filed: 04/02/2018

Art Unit: 2666

Examiner: Atiba O. Fitzpatrick

Atty. Docket No.: 6338.439

Customer No: 30589

Mail Box Non-Fee Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE

The following is being submitted in response to the Office Action dated May 18, 2018.

Remarks begin on page 2 of this paper.

REMARKS

Claims 1-3, 4, 5-9, 10, 11-15, 16, and 17-19 have been rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-3, (4-10), 11-15, 1, 16-20, 16, and 21-23 of U.S. Patent No. 9,933,254.

As discussed in the Office Action, the non-statutory double-patenting rejections can be overcome by submitting a timely filed terminal disclaimer. Submitted herewith is a terminal disclaimer to overcome the double patenting rejection. Therefore, reconsideration and withdrawal of the rejections of claims 1-3, 4, 5-9, 10, 11-15, 16, and 17-19 on the ground of nonstatutory double patenting is respectfully requested.

CONCLUSION

The foregoing is intended to be a complete response to the Office Action mailed May 18, 2018. For the reasons stated above, reconsideration and withdrawal of the rejections is respectfully requested. Should the Examiner have any questions or comments regarding the foregoing, or any other matter, the undersigned would welcome a telephonic interview with the Examiner.

Respectfully submitted,



Marc A. Brockhaus, Reg. No. 40,923
DUNLAP CODDING, P.C.
P.O. Box 16370
Oklahoma City, Oklahoma 73118
Telephone: 405-607-8600
Facsimile: 405-607-8686

Attorney for Applicants

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.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Dale R. Thornberry, Chris T. Thornberry and Mark F. Garringer

Application No./Patent No.: 15/943,337 Filed/Issue Date: 04/02/2018

Titled: SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING AERIAL IMAGERY

Pictometry International Corp., a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose one of options 1, 2, 3 or 4 below):

1. ☒ The assignee of the entire right, title, and interest.
2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):
- ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
- ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose one of options A or B below):

- A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
- B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Dale R. Thornberry, Chris T. Thornberry Mark F. Garringer To: Thornberry Consulting, LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 031930, Frame 0257, or for which a copy thereof is attached.

2. From: Thornberry Consulting, LLC To: Pictometry International Corp.

The document was recorded in the United States Patent and Trademark Office at
Reel 031928, Frame 0368, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

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The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.☐ Additional documents in the chain of title are listed on a supplemental sheet(s).☐ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Marc Brockhaus
Signature

Marc A. Brockhaus

Printed or Typed Name

08/06/2018

Date

Attorney for Applicant

Title or Registration Number

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:



Practitioners associated with Customer Number:

30589

OR



Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:



The address associated with Customer Number:

30589

OR

☐ Firm or Individual Name	DUNLAP CODDING, P.C.		
Address	P.O. Box 16370		
City	Oklahoma City	State OK	Zip 73113
Country	US		
Telephone	405-607-8600	Email	mbrockhaus@dunlapcoddington.com

Assignee Name and Address: Pictometry International Corp.
25 Methodist Hill Drive
Rochester, NY 14623

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of The practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature	<i>David Silverman</i>	Date	7/27/2018
Name	David Silverman	Telephone	425-408-8481
Title	General Counsel, Pictometry International Corp.		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to 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.

Electronic Patent Application Fee Transmittal

Application Number:	15943337			
Filing Date:	02-Apr-2018			
Title of Invention:	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY			
First Named Inventor/Applicant Name:	Dale R. Thornberry			
Filer:	Marc Alan Brockhaus/Lori Martin			
Attorney Docket Number:	6338.439			
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:				
STATUTORY OR TERMINAL DISCLAIMER	1814	1	160	160
Total in USD (\$)				160

Electronic Acknowledgement Receipt

EFS ID:	33384640
Application Number:	15943337
International Application Number:	
Confirmation Number:	7670
Title of Invention:	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY
First Named Inventor/Applicant Name:	Dale R. Thornberry
Customer Number:	30589
Filer:	Marc Alan Brockhaus/Lori Martin
Filer Authorized By:	Marc Alan Brockhaus
Attorney Docket Number:	6338.439
Receipt Date:	06-AUG-2018
Filing Date:	02-APR-2018
Time Stamp:	15:29:53
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	080718INTEFSW15311100
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	6338439_Transmittal08062018.pdf	56390	no	1
			63f321a1d9d44595ea9f083a6183437aa718e4d8		
Warnings:					
Information:					
2	Terminal Disclaimer Filed	6338439_TD08062018.pdf	58443	no	1
			a5518a68161ba539ddb48791ac44701d9f04f2ec		
Warnings:					
Information:					
3		6338439_Response08062018.pdf	48465	yes	3
			cba38cad921f295c84701f6db070080e42ccf572		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Applicant Arguments/Remarks Made in an Amendment		2	3	
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Information:					
4	Assignee showing of ownership per 37 CFR 3.73	6338439_Statement08062018.pdf	96480	no	2
			d516d28c9dc4dfe09ff06f9523528a369f434d25		
Warnings:					
Information:					
5	Power of Attorney	6338439_POA08062018.pdf	58549	no	1
			994d6673e0a274337fa4f9ac85d4ada81dfa2b40		
Warnings:					
Information:					

6	Fee Worksheet (SB06)	fee-info.pdf	30630	no	2
			830dcda749fcd4a85121bd8f726c89b7530db30		

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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.

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.

TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	15/943,337
	Filing Date	04/02/2018
	First Named Inventor	Dale R. Thornberry
	Art Unit	2666
	Examiner Name	Atiba O. Fitzpatrick
Total Number of Pages in This Submission	Attorney Docket Number	6338.439

ENCLOSURES (Check all that apply)		
☐ Fee Transmittal Form ☐ Fee Attached ☒ Amendment/Reply ☐ After Final ☐ Affidavits/declaration(s) ☐ Extension of Time Request ☐ Express Abandonment Request ☐ Information Disclosure Statement ☐ Certified Copy of Priority Document(s) ☐ Reply to Missing Parts/ Incomplete Application ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53	☐ Drawing(s) ☐ Licensing-related Papers ☐ Petition ☐ Petition to Convert to a Provisional Application ☒ Power of Attorney, Revocation ☒ Change of Correspondence Address ☒ Terminal Disclaimer ☐ Request for Refund ☐ CD, Number of CD(s) _____ ☐ Landscape Table on CD	☐ After Allowance Communication to TC ☐ Appeal Communication to Board of Appeals and Interferences ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) ☐ Proprietary Information ☐ Status Letter ☒ Other Enclosure(s) (please identify below): See Remarks
Remarks ELECTRONICALLY TRANSMITTED: 1. SB21 Transmittal Form (1 pg); 2. SB26 Terminal Disclaimer (1 pg); 3. Response (3 pgs); 4. Power of Attorney (1 pg); and 5. AIA96 Statement Under 37 CFR 3.73(c) (2 pgs).		
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm Name	DUNLAP CODDING, P.C.	
Signature	<i>Marc Brockhaus</i>	
Printed name	Marc A. Brockhaus	
Date	08/06/2018	Reg. No. 40,923

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature	<i>Marc Brockhaus</i>		
Typed or printed name	Marc A. Brockhaus	Date	08/06/2018

This collection of information is required by 37 CFR 1.5. 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 2 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.

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.

**TERMINAL DISCLAIMER TO OBTAIN A DOUBLE PATENTING
REJECTION OVER A "PRIOR" PATENT**

Docket Number (Optional)
6338.439

In re Application of: Dale R. Thornberry

Application No.: 15/943,337

Filed: 04/02/2018

For: SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY

The applicant, Pictometry International Corp., owner of 100 percent interest 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** No. 9,933,254 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The applicant hereby agrees that any patent so granted on the instant application shall be enforceable only for any 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.

In making the above disclaimer, the applicant 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:

- 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.

Check either box 1 or 2 below, if appropriate.

1. ☐ The undersigned is the applicant. If the applicant is an assignee, the undersigned is authorized to act on behalf of the assignee.

I hereby acknowledge that any willful false statements made are punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 40,923

Marc Brockhaus
Signature

08/06/2018
Date

Marc A. Brockhaus
Typed or printed name

Attorney of Record
Title

405-607-8600
Telephone Number

- ☒ Terminal disclaimer fee under 37 CFR 1.20(d) included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Application Number 	Application/Control No. 15/943,337	Applicant(s)/Patent under Reexamination THORNBERRY ET AL.	
Document Code - DISQ		Internal Document – DO NOT MAIL	

TERMINAL DISCLAIMER	☒ APPROVED	☐ DISAPPROVED
Date Filed : 06 August, 2018	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:
<u>PAMELA YOUNG</u> Technology Center: <u>PLRC</u> Telephone: _____



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
15/943,337	04/02/2018	Dale R. Thornberry	6338.439

30589
DUNLAP CODDING, P.C.
PO BOX 16370
OKLAHOMA CITY, OK 73113

CONFIRMATION NO. 7670
POA ACCEPTANCE LETTER



Date Mailed: 08/09/2018

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 08/06/2018.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/vnguyen/



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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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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
15/943,337	04/02/2018	Dale R. Thornberry	6338.439

CONFIRMATION NO. 7670

30589
DUNLAP CODDING, P.C.
PO BOX 16370
OKLAHOMA CITY, OK 73113

PUBLICATION NOTICE



OC000000101593679

Title:SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY

Publication No.US-2018-0224271-A1

Publication Date:08/09/2018

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 publically 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

NOTICE OF ALLOWANCE AND FEE(S) DUE

30589 7590 09/25/2018
DUNLAP CODDING, P.C.
PO BOX 16370
OKLAHOMA CITY, OK 73113

EXAMINER

FITZPATRICK, ATIBA O

ART UNIT

PAPER NUMBER

2666

DATE MAILED: 09/25/2018

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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15/943,337

04/02/2018

Dale R. Thornberry

6338.439

7670

TITLE OF INVENTION: SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1000	\$0	\$0	\$1000	12/26/2018

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), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (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)

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.

30589 7590 09/25/2018
DUNLAP CODDING, P.C.
PO BOX 16370
OKLAHOMA CITY, OK 73113

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 facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/943,337	04/02/2018	Dale R. Thornberry	6338.439	7670

TITLE OF INVENTION: SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1000	\$0	\$0	\$1000	12/26/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
FITZPATRICK, ATIBA O	2666	382-100000

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 03-02 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 has been filed for recordation as set forth in 37 CFR 3.11. 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. The following fee(s) are submitted: ☐ Issue Fee ☐ Publication Fee (No small entity discount permitted) ☐ Advance Order - # of Copies _____	4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above) ☐ A check is enclosed. ☐ Payment by credit card. Form PTO-2038 is attached. ☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).
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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.
15/943,337	04/02/2018	Dale R. Thornberry	6338.439	7670

30589	7590	09/25/2018
DUNLAP CODDING, P.C. PO BOX 16370 OKLAHOMA CITY, OK 73113		

EXAMINER	
FITZPATRICK, ATIBA O	

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 09/25/2018

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.

<i>Notice Requiring Inventor's Oath or Declaration</i>	Application No. 15/943,337	Applicant(s) Dale R. Thornberry	
	Examiner FITZPATRICK, ATIBA O	Art Unit 2666	

This notice is an attachment to the Notice of Allowability (PTOL-37), or the Notice of Allowability For A Design Application (PTOL-37D).

An inventor's oath or declaration in compliance with 37 CFR 1.63 or 1.64 executed by or with respect to each inventor has not yet been submitted.

An oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each inventor (for any inventor for which a compliant oath, declaration, or substitute statement has not yet been submitted) **MUST** be filed no later than the date on which the issue fee is paid. See 35 U.S.C. 115(f). Failure to timely comply will result in ABANDONMENT of this application.

A properly executed inventor's oath to declaration has not been received for the following inventor(s):

If applicant previously filed one or more oaths, declarations, or substitute statements, applicant may have received an informational notice regarding deficiencies therein.

The following deficiencies are noted:

INFORMAL ACTION PROBLEMS

- A properly executed inventor's oath or declaration has not been received for the following inventor(s): **Dale R. Thornberry , Chris T. Thornberry, and Mark F. Garringer.**

Applicant may submit the inventor's oath or declaration at any time before the Notice of Allowance and Fee(s) Due, PTOL-85, is mailed.

Questions relating to this Notice should be directed to the Application Assistance Unit at 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 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, 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. 15/943,337	Applicant(s) THORNBERRY ET AL.	
	Examiner ATIBA O. FITZPATRICK	Art Unit 2666	AIA (First Inventor to File) Status No

-- 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 08/08/2018.
☐ 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 1-19. 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. ☐ Notice of References Cited (PTO-892) 2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____ 3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material 4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ 5. ☐ Examiner's Amendment/Comment 6. ☒ Examiner's Statement of Reasons for Allowance 7. ☐ Other _____	
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/ATIBA O FITZPATRICK/ Primary Examiner, Art Unit 2666	
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The present application is being examined under the pre-AIA first to invent provisions.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: Limitations pertaining to "responsive to receiving the user-acceptance confirming the designation of the building roof structure location, providing visual access to one or more second image corresponding to geographic location coordinates of the building roof structure location, the one or more second image having a second resolution of the building that is higher resolution than the first resolution", in conjunction with other limitations present in the independent claims, distinguish over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ATIBA O. FITZPATRICK whose telephone number is (571)270-5255. The examiner can normally be reached on Monday - Friday.

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>.

Art Unit: 2666

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lefkowitz Sumati can be reached on (571)272-3638. 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.

/ATIBA O FITZPATRICK/
Primary Examiner, Art Unit 2666

Issue Classification 	Application/Control No. 15943337	Applicant(s)/Patent Under Reexamination THORNBERRY ET AL.	
	Examiner ATIBA O FITZPATRICK	Art Unit 2666	

CPC					
Symbol				Type	Version
G01B	11	28		F	2013-01-01
G06K	9	00637		I	2013-01-01
G06F	17	5004		I	2013-01-01
G06F	3	04815		I	2013-01-01
G06T	7	62		I	2017-01-01
G06T	2207	10032		A	2013-01-01

CPC Combination Sets				
Symbol	Type	Set	Ranking	Version

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 19	
/ATIBA O FITZPATRICK/ Primary Examiner.Art Unit 2666 (Primary Examiner) _____ (Date) _____		O.G. Print Claim(s) 1	O.G. Print Figure 1

Issue Classification 	Application/Control No. 15943337	Applicant(s)/Patent Under Reexamination THORNBERRY ET AL.
	Examiner ATIBA O FITZPATRICK	Art Unit 2666

☒ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
	1		17												
	2		18												
	3		19												
	4														
	5														
	6														
	7														
	8														
	9														
	10														
	11														
	12														
	13														
	14														
	15														
	16														

NONE	Total Claims Allowed: 19	
(Assistant Examiner)	(Date)	
/ATIBA O FITZPATRICK/ Primary Examiner.Art Unit 2666	09/16/2018	O.G. Print Claim(s) 1
(Primary Examiner)	(Date)	O.G. Print Figure 1

<i>Index of Claims</i> 	Application/Control No. 15943337	Applicant(s)/Patent Under Reexamination THORNBERRY ET AL.
	Examiner ATIBA O FITZPATRICK	Art Unit 2666

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

☒ Claims renumbered in the same order as presented by applicant				☐ CPA		☐ T.D.		☐ R.1.47	
CLAIM		DATE							
Final	Original	05/13/2018	09/16/2018						
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	2	✓	=						
	3	✓	=						
	4	✓	=						
	5	✓	=						
	6	✓	=						
	7	✓	=						
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	14	✓	=						
	15	✓	=						
	16	✓	=						
	17	✓	=						
	18	✓	=						
	19	✓	=						

Search Notes 	Application/Control No. 15943337	Applicant(s)/Patent Under Reexamination THORNBERRY ET AL.
	Examiner ATIBA O FITZPATRICK	Art Unit 2666

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

* 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
inventor search	9/16/2018	AF
EAST keyword search	9/16/2018	AF
G01B11/28; G06F17/5004; G06F3/04815; G06K9/00637; G06T7/602 combined with keyword search	9/16/2018	AF

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
	See interference printout	9/16/2018	AF

	/ATIBA O FITZPATRICK/ Primary Examiner.Art Unit 2666
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L4	2	12/470984.app.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:11
L5	21	(THORNBERRY-DALE\$, THORNBERRY-CHRI \$\$, GARRI NGER-MARK\$).in.	US-PGPUB; USPAT; USOCR	OR	ON	2018/09/16 21:11
L6	42	("5319541" "6859768" "20100110074" "6496184" "20070150366" "5699444" "5625827" "6636803" "6798925" "20060282235" "7305983" "6446053" "7133551" "20100114537" "20100179787" "5633995" "6980690" "7324666" "7085400" "20030014224" "20020154174" "20060200311" "20090132436" "7003400" "6396491" "7239761" "20050038636" "7343268" "20080262789" "4497551" "7133570" "6766282" "7164883" "20080221843" "5995765" "7046839" "20050288959" "6323885" "6385541" "6836270" "7006977" "20080105045").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2018/09/16 21:11
L7	13	L6 and (marker mark\$3 index indicator tag\$4 label\$4 pin) near5 (moveable mov\$3 chang\$3 adjust\$4 updat\$3 alter\$3 vary\$3 modif\$4 edit\$4 calibrat\$4 refin\$4 tune tuning tuned fine\$2tun\$3 replac\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:11
L8	29	L6 not L7	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:29
L9	10	roof with (image picture photograph\$4 frame video) and (latitud\$5 longitud\$5) with (image picture photograph\$4 frame video) with (plural\$3 poly many several numerous various multi dual multiple (more NEAR2 than) two three first second third all any every each additional subsequent another next) near2 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:30
L10	6	roof with (image picture photograph\$4 frame video) and (latitud\$5 longitud\$5) with (image picture photograph\$4 frame video) with (database knowledge\$3base) and	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2018/09/16 21:30

		(plural\$3 poly many several numerous various multi dual multiple (more NEAR2 than) two three first second third all any every each additional subsequent another next) near2 (database knowledge\$3base) not L9	EPO; JPO; DERWENT; IBM_TDB			
L11	4	(US-20120120069-\$ or US-20100179787-\$ or US-20080262789-\$).did. or (US-8145578-\$).did.	US-PGPUB; USPAT	OR	ON	2018/09/16 21:30
L12	4	L11 and (plural\$3 poly many several numerous various multi dual multiple (more NEAR2 than) two three first second third all any every each additional subsequent another next) near2 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:30
L13	42	("5319541" "6859768" "20100110074" "6496184" "20070150366" "5699444" "5625827" "6636803" "6798925" "20060282235" "7305983" "6446053" "7133551" "20100114537" "20100179787" "5633995" "6980690" "7324666" "7085400" "20030014224" "20020154174" "20060200311" "20090132436" "7003400" "6396491" "7239761" "20050038636" "7343268" "20080262789" "4497551" "7133570" "6766282" "7164883" "20080221843" "5995765" "7046839" "20050288959" "6323885" "6385541" "6836270" "7006977" "20080105045").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2018/09/16 21:30
L14	12	L13 and (plural\$3 poly many several numerous various multi dual multiple (more NEAR2 than) two three first second third all any every each additional subsequent another next) near2 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:30
L15	0	roof with (image picture photograph\$4 frame video) and report\$4 with (latitud\$5 longitud\$5) with (image picture photograph\$4 frame video)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:30
L16	32	roof with (image picture photograph\$4 frame video) and report\$4 with (latitud\$5 longitud\$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:30
L17	8	(US-20100296693-\$ or US-20070107620-\$ or US-20050216147-\$ or US-20030095789-\$).did. or (US-7391956-\$ or US-7246007-\$ or US-6625383-\$ or US-6571052-\$).did.	US-PGPUB; USPAT	OR	ON	2018/09/16 21:31
L18	8	(US-20100296693-\$ or US-20070107620-\$ or US-20050216147-\$ or US-20030095789-\$).did. or (US-7391956-\$ or US-7246007-\$ or US-6625383-\$ or US-6571052-\$).did.	US-PGPUB; USPAT	OR	ON	2018/09/16 21:31
L19	8	L18 and report\$4 with (latitud\$5	US-PGPUB;	OR	ON	2018/09/16

		longitud\$5)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			21:31
L20	1	L13 and report\$4 with (latitud\$5 longitud\$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:31
L21	20	L13 and (latitud\$5 longitud\$5)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:31
L22	1	"20100110074".pn. and report\$4 with model\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:31
L23	34	L13 and (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:31
L24	2	"20100110074".pn. and (outlin\$4 contour\$4 border\$4 trac\$4 arm\$3 boundar\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:31
L25	42	("5319541" "6859768" "20100110074" "6496184" "20070150366" "5699444" "5625827" "6636803" "6798925" "20060282235" "7305983" "6446053" "7133551" "20100114537" "20100179787" "5633995" "6980690" "7324666" "7085400" "20030014224" "20020154174" "20060200311" "20090132436" "7003400" "6396491" "7239761" "20050038636" "7343268" "20080262789" "4497551" "7133570" "6766282" "7164883" "20080221843" "5995765" "7046839" "20050288959" "6323885" "6385541" "6836270" "7006977" "20080105045").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2018/09/16 21:32
L26	3	(US-20060200311-\$ or US-20020154174- \$).did. or (US-6636803-\$).did.	US-PGPUB; USPAT	OR	ON	2018/09/16 21:32
L27	0	L26 and roof	US-PGPUB; USPAT; USOCR;	OR	ON	2018/09/16 21:32

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
L28	29	L25 and ("382"/\$, "345"/\$, "703"/\$, "715"/\$, "340"/\$).ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:32
L29	735	nadir near4 (image picture frame scan video photogra\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:32
L30	270	nadir adj1 (image picture frame scan video photogra\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:32
L31	1	("20070220174").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2018/09/16 21:33
L32	6	(roof) near5 (image picture frame scan photogra\$4 picel pixel) with (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude) near5 (marker tag\$4 label\$4 pin) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:33
L33	20	(roof) near5 (image picture frame scan photogra\$4 picel pixel) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude) near5 (marker tag\$4 label\$4 pin) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:33
L34	14	L33 not L32	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:33
L35	2	("20070220174").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2018/09/16 21:33
L36	19	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2018/09/16 21:35

		label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base) not L33	DERWENT; IBM_TDB			
L37	154	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4 label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (archiv\$4 stor\$3 sav\$3 record\$3 memor\$4 repository database) not (L33 L36)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:35
L38	7	L37 and (G01B11/28; G06F17/5004; G06F3/04815; G06K9/00637; G06T7/602).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:35
L39	84	(US-20150157468-\$ or US-20150151771-\$ or US-20130190981-\$ or US-20140368507-\$ or US-20140156049-\$ or US-20140015924-\$ or US-20130322767-\$ or US-20130293584-\$ or US-20120120103-\$ or US-20110205245-\$ or US-20070150366-\$ or US-20110001606-\$ or US-20030037812-\$ or US-20100114680-\$ or US-20090304227-\$ or US-20090046093-\$ or US-20060132291-\$ or US-20070019888-\$ or US-20060055991-\$ or US-20050267657-\$ or US-20050017537-\$ or US-20040247174-\$ or US-20040081355-\$ or US-20030137426-\$ or US-20030063004-\$ or US-20030019689-\$).did. or (US-6604606-\$ or US-6315180-\$ or US-6876390-\$ or US-6547304-\$ or US-6454049-\$ or US-6349249-\$ or US-6227603-\$ or US-6116485-\$ or US-5876064-\$ or US-5558389-\$ or US-5247357-\$ or US-5172228-\$ or US-4842316-\$ or US-4667565-\$ or US-4635136-\$ or US-4546530-\$ or US-4438878-\$ or US-4326726-\$ or US-3802354-\$ or US-3797670-\$ or US-3677192-\$).did. or (US-3460297-\$ or US-3418778-\$ or US-3395940-\$ or US-3371954-\$ or US-3321135-\$ or US-3279636-\$ or US-3186758-\$ or US-3186419-\$ or US-3180675-\$ or US-3161958-\$ or US-3160434-\$ or US-3143978-\$ or US-3141494-\$ or US-3096983-\$ or US-3085586-\$ or US-3069028-\$ or US-3053426-\$ or US-3011455-\$ or US-2895274-\$ or US-2882911-\$ or US-2860004-\$ or US-2723811-\$ or US-2715953-\$ or US-2576691-\$ or US-2513102-\$ or US-2414412-\$).did. or (US-2323665-\$ or US-2270506-\$ or US-2007514-\$ or US-1713503-\$ or US-1374386-\$).did. or (EP-0725326-\$ or CN-201539597-\$).did. or (EP-725326-\$).did. or (US-20150016689-\$).did.	US-PGPUB; USPAT; USOCR; FPRS; EPO; DERWENT	OR	ON	2018/09/16 21:35
L40	82	L39 and (address\$4 position\$4 locat\$4	US-PGPUB;	OR	ON	2018/09/16

		placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4 label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (archiv\$4 stor\$3 sav\$3 record\$3 memor\$4 repository database)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			21:35
L41	20	(roof) near5 (image picture frame scan photogra\$4 picel pixel) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude) near5 (marker tag\$4 label\$4 pin) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:37
L42	19	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4 label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base) not L41	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:37
L43	154	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4 label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (archiv\$4 stor\$3 sav\$3 record\$3 memor\$4 repository database) not (L41 L42)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:37
L44	170	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4 label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (retreiv\$4 provid\$4 access\$4 find\$3 get getting call) not (L43)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:37
L45	144	L44 not (L41 L42)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:37
L46	12	L45 and (G01B11/28; G06F17/5004; G06F3/04815; G06K9/00637; G06T7/602).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:40
L47	3	(US-20100296693-\$ or US-20110282537-\$).did. or (US-8818770-\$).did.	US-PGPUB; USPAT	OR	ON	2018/09/16 21:40
L48	3	L47 and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4 label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (retreiv\$4 provid\$4 access\$4 find\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2018/09/16 21:40

		get getting call)	IBM_TDB			
L49	132	L45 not L46	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:40
L50	396	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base) not (L41 L42 L43 L44)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:40
L51	80	L50 and (G01B11/28; G06F17/5004; G06F3/04815; G06K9/00637; G06T7/602).cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:41
L52	206	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (archiv\$4 stor\$3 sav\$3 record\$3 memor\$4 repository database) near5 (image picture frame scan photogra\$4 picel pixel) near5 (retreiv\$4 provid\$4 access\$4 find\$3 get getting call) not (L41 L42 L43 L44 L51)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:41
L53	316	L50 not L51	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:41
L54	105	(US-20150242855-\$ or US-20150227775-\$ or US-20150213590-\$ or US-20150193972-\$ or US-20150149454-\$ or US-20150097924-\$ or US-20150066442-\$ or US-20150043828-\$ or US-20120121125-\$ or US-20140357428-\$ or US-20140316614-\$ or US-20140289323-\$ or US-20140282060-\$ or US-20140279868-\$ or US-20140258295-\$ or US-20140257943-\$ or US-20140036076-\$ or US-20140245210-\$ or US-20140236514-\$ or US-20090132436-\$ or US-20140176543-\$ or US-20140132409-\$ or US-20130293542-\$ or US-20110216953-\$ or US-20120120069-\$ or US-20140029802-\$).did. or (US-20140025199-\$ or US-20140019166-\$ or US-20080262789-\$ or US-20130296711-\$ or US-20130246204-\$ or US-20130230255-\$ or US-20130222369-\$ or US-20130204457-\$ or US-20130176401-\$ or US-20130064522-\$ or US-20120281913-\$ or US-20120221371-\$ or US-20110109719-	US-PGPUB; USPAT; FPRS; DERWENT	OR	ON	2018/09/16 21:41

		\$ or US-20120156662-\$ or US-20120140063-\$ or US-20120086850-\$ or US-20120076358-\$ or US-20110292208-\$ or US-20110205084-\$ or US-20110137561-\$ or US-20110012900-\$ or US-20100322483-\$ or US-20100212979-\$ or US-20100062817-\$ or US-20070003162-\$ or US-20100036883-\$ or US-20100009735-\$).did. or (US-20090316939-\$ or US-20040029213-\$ or US-20090284553-\$ or US-20090259567-\$ or US-20090216552-\$ or US-20090171822-\$ or US-20090132316-\$ or US-20090112389-\$ or US-20090100767-\$ or US-20080266142-\$ or US-20080249702-\$ or US-20080204570-\$ or US-20080172955-\$ or US-20080152216-\$ or US-20070140595-\$ or US-20060152592-\$ or US-20060137736-\$ or US-20060132605-\$ or US-20060056732-\$ or US-20050231507-\$ or US-20050203768-\$ or US-20040215660-\$ or US-20030216953-\$ or US-20030076414-\$ or US-20020164962-\$ or US-20020154213-\$ or US-20020134151-\$).did. or (US-20020084891-\$ or US-20020065046-\$ or US-20020040356-\$ or US-20020009978-\$ or US-20010049592-\$).did. or (US-9135752-\$ or US-7983474-\$ or US-6509750-\$ or US-6812851-\$ or US-6002499-\$ or US-6241288-\$ or US-5748865-\$ or US-5835386-\$ or US-5831876-\$ or US-5818737-\$ or US-5815417-\$ or US-5809161-\$ or US-5808916-\$ or US-5734337-\$ or US-5259037-\$).did. or (KR-100818340-\$).did. or (US-20140125664-\$ or US-20140019166-\$ or US-20080262789-\$ or KR-818340-\$).did.				
L55	105	L54 and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:41
L56	102	L52 not L50	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:41
L57	60	(US-20140204215-\$ or US-20130201365-\$ or US-20130195314-\$ or US-20130144427-\$ or US-20130116968-\$ or US-20110122520-\$ or US-20100199915-\$ or US-20100149782-\$ or US-20070065259-\$ or US-20060146120-\$ or US-20020156559-\$ or US-20070091183-\$ or US-20070057530-\$ or US-20060120565-\$ or US-20050285428-\$ or US-20050196258-\$ or US-20050080702-\$ or US-20050071376-\$ or US-20040222658-\$ or US-	US-PGPUB; USPAT; USOCR; FPRS; DERWENT	OR	ON	2018/09/16 21:41

		20040155480-\$ or US-20030101237-\$ or US-20030095789-\$ or US-20030081123-\$ or US-20030057749-\$ or US-20020063725-\$).did. or (US-7774268-\$ or US-6400835-\$ or US-7855662-\$ or US-7602947-\$ or US-6917693-\$ or US-6580373-\$ or US-6571052-\$ or US-6473126-\$ or US-6375222-\$ or US-6360930-\$ or US-6215518-\$ or US-6198502-\$ or US-6131343-\$ or US-6067078-\$ or US-5835241-\$ or US-5764383-\$ or US-5760925-\$ or US-5726775-\$ or US-5551743-\$ or US-5080426-\$ or US-5039153-\$ or US-4746163-\$ or US-4671315-\$ or US-4290083-\$ or US-3957301-\$ or US-3841221-\$).did. or (US-3557712-\$).did. or (US-3282192-\$ or US-3206725-\$ or US-2925859-\$ or US-1605220-\$).did. or (WO-0224565-\$).did. or (CA-2546882-\$ or US-20050017537-\$ or WO-0224565-\$).did.				
L58	0	L57 and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:42
L59	60	L57 and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (archiv\$4 stor\$3 sav\$3 record\$3 memor\$4 repository database) near5 (image picture frame scan photogra\$4 picel pixel) near5 (retreiv\$4 provid\$4 access\$4 find\$3 get getting call)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:42
L60	23	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (high\$3 great\$3 increas\$4 more abvoe superior better best) near5 (resolution resolv\$4) with (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:42
L61	23	(roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (high\$3 great\$3 increas\$4 more above superior better best) near5 (resolution resolv\$4) with (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/09/16 21:42
L62	6	(US-20140237430-\$ or US-20140019166-\$ or US-20100296693-\$ or US-20120086850-\$ or US-20060137736-\$).did. or (US-20140019166-\$).did.	US-PGPUB; DERWENT	OR	ON	2018/09/16 21:42

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
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L2	14	(((roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) with (marker tag\$4 label\$4 pin pushpin) same (image picture frame scan photogra\$4 picel pixel) near5 (retreiv\$4 provid\$4 access\$4 find\$3 get getting call)).clm.	US-PGPUB; USPAT	OR	ON	2018/09/16 21:09
L3	25	(((roof) with (image picture frame scan photogra\$4 picel pixel video) and (address\$4 position\$4 locat\$4 placed placement placing coordinat\$4 latitude longitude lat lon) same (image picture frame scan photogra\$4 picel pixel) near5 (database knowledge\$3base)).clm.	US-PGPUB; USPAT	OR	ON	2018/09/16 21:09

9/ 16/ 2018 9:45:49 PM
C:\ Users\ afitzpatrick\ Documents\ EAST\ Workspaces\ 15943337.wsp

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TRANSMITTAL FORM <i>(to be used for all correspondence after initial filing)</i>	Application Number	15/943,337
	Filing Date	04/02/2018
	First Named Inventor	Dale R. Thornberry
	Art Unit	2666
	Examiner Name	Atiba O. Fitzpatrick
	Attorney Docket Number	6338.439
Total Number of Pages in This Submission		

ENCLOSURES (Check all that apply)		
☐ Fee Transmittal Form ☐ Fee Attached ☐ Amendment/Reply ☐ After Final ☐ Affidavits/declaration(s) ☐ Extension of Time Request ☐ Express Abandonment Request ☐ Information Disclosure Statement ☐ Certified Copy of Priority Document(s) ☐ Reply to Missing Parts/ Incomplete Application ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53	☐ Drawing(s) ☐ Licensing-related Papers ☐ Petition ☐ Petition to Convert to a Provisional Application ☐ Power of Attorney, Revocation Change of Correspondence Address ☐ Terminal Disclaimer ☐ Request for Refund ☐ CD, Number of CD(s) _____ ☐ Landscape Table on CD	☐ After Allowance Communication to TC ☐ Appeal Communication to Board of Appeals and Interferences ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) ☐ Proprietary Information ☐ Status Letter ☒ Other Enclosure(s) (please identify below): See Remarks
Remarks ELECTRONICALLY TRANSMITTED: 1. SB21 Transmittal Form (1 pg); 2. Declarations (3 pgs); and 3. Statement (2 pgs).		
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm Name	DUNLAP CODDING, P.C.	
Signature	<i>Ann M. Robl</i>	
Printed name	Ann M. Robl	
Date	10/15/2018	Reg. No. 71,541

CERTIFICATE OF TRANSMISSION/MAILING	
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:	
Signature	<i>Ann M. Robl</i>
Typed or printed name	Ann M. Robl
Date	10/15/2018

This collection of information is required by 37 CFR 1.5. 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 2 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.

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**SUBSTITUTE STATEMENT IN LIEU OF AN OATH OR DECLARATION FOR UTILITY
OR DESIGN PATENT APPLICATION (35 U.S.C. 115(d) AND 37 CFR 1.64)**

Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING AERIAL IMAGERY						
This statement is directed to:							
☐ The attached application,							
OR							
☒ United States application or PCT international application number <u>15/005,977</u> filed on <u>01/25/2016</u>							
LEGAL NAME of inventor to whom this substitute statement applies:							
(E.g., Given Name (first and middle (if any)) and Family Name or Surname)							
Dale R. Thornberry							
Residence (except for a deceased or legally incapacitated inventor):							
City	Carmel	State	IN	Country	US		
Mailing Address (except for a deceased or legally incapacitated inventor):							
13890 Wildcat Dr.							
City	Carmel	State	IN	Zip	46033	Country	US
I believe the above-named inventor or joint inventor to be the original inventor or an original joint inventor of a claimed invention in the application.							
The above-identified application was made or authorized to be made by me.							
I hereby acknowledge that any willful false statement made in this statement is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.							
Relationship to the inventor to whom this substitute statement applies:							
☐ Legal Representative (for deceased or legally incapacitated inventor only),							
☒ Assignee,							
☐ Person to whom the inventor is under an obligation to assign,							
☐ Person who otherwise shows a sufficient proprietary interest in the matter (petition under 37 CFR 1.48 is required), or							
☐ Joint Inventor.							

[Page 1 of 2]

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.

SUBSTITUTE STATEMENT

Circumstances permitting execution of this substitute statement:

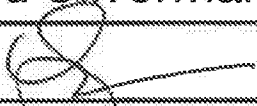
- ☐ Inventor is deceased,
☐ Inventor is under legal incapacity,
☐ Inventor cannot be found or reached after diligent effort, or
☒ Inventor has refused to execute the oath or declaration under 37 CFR 1.63.

If there are joint inventors, please check the appropriate box below:

- ☒ An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) naming the entire inventive entity has been or is currently submitted.
 OR
☐ An application data sheet under 37 CFR 1.76 (PTO/AIA/14 or equivalent) has not been submitted. Thus, a Substitute Statement Supplemental Sheet (PTO/AIA/11 or equivalent) naming the entire inventive entity and providing inventor information is attached. See 37 CFR 1.64(b).

WARNING:

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

PERSON EXECUTING THIS SUBSTITUTE STATEMENT:Name: **David Silverman**10/3/18
Date (Optional):Signature: **APPLICANT NAME AND TITLE OF PERSON EXECUTING THIS SUBSTITUTE STATEMENT:**

If the applicant is a juristic entity, list the applicant name and the title of the signer:

Pictometry International Corp.

Applicant Name:

Title of Person Executing
This Substitute Statement: **General Counsel**

The signer, whose title is supplied above, is authorized to act on behalf of the applicant.

Residence of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent):

City **Bothell** State **WA** Country **US**

Mailing Address of the signer (unless provided in an application data sheet, PTO/AIA/14 or equivalent)

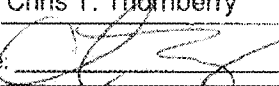
25 Methodist Hill Drive

City **Rochester** State **NY** Zip **14623** Country **US**

Note: Use an additional PTO/AIA/02 form for each inventor who is deceased, legally incapacitated, cannot be found or reached after diligent effort, or has refused to execute the oath or declaration under 37 CFR 1.63.

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

Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING AERIAL IMAGERY
As the below named inventor, I hereby declare that: This declaration is directed to: ☐ The attached application, or ☒ United States application or PCT international application number <u>13/786,699</u> filed on <u>03/06/2013</u> The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. WARNING: Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available. LEGAL NAME OF INVENTOR Inventor: <u>Chris T. Thornberry</u> Date (Optional): <u>7/15/2013</u> Signature:  Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.	

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.

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

Title of Invention	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING AERIAL IMAGERY	
As the below named inventor, I hereby declare that:		
This declaration is directed to	☐ The attached application, or ☒ United States application or PCT international application number <u>13/786,699</u> filed on <u>03/06/2013</u>	
The above-identified application was made or authorized to be made by me.		
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.		
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.		
WARNING: Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identify theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.		
LEGAL NAME OF INVENTOR		
Inventor	<u>Mark F. Garringer</u>	Date (Optional): <u>4/19/13</u>
Signature:		
Note: An application data sheet (PTO/SB4 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.		

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 5 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 1460, Alexandria, VA 22313-1460. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1460, Alexandria, VA 22313-1460.

If you need assistance in completing the form, call 1-800-PTO-6199 and select option 2.

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.

STATEMENT UNDER 37 CFR 3.73(c)Applicant/Patent Owner: Dale R. Thornberry, Chris T. Thornberry and Mark F. GarringerApplication No./Patent No.: 15/943,337 Filed/Issue Date: 04/02/2018Titled: SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING AERIAL IMAGERY

Pictometry International Corp. _____, a Corporation _____

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose one of options 1, 2, 3 or 4 below):

1. ☒ The assignee of the entire right, title, and interest.
2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):
- ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
- ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1; 2 or 3 above (not option 4) is evidenced by either (choose one of options A or B below):

- A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
- B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Dale R. Thornberry, Chris T. Thornberry and Mark F. Garringer To: Thornberry Consulting, LLC

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: Thornberry Consulting, LLC To: Pictometry International Corp.

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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

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STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

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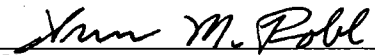
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Reel _____, Frame _____, or for which a copy thereof is attached.☐ Additional documents in the chain of title are listed on a supplemental sheet(s).☒ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.



Signature

Ann M. Robl

Printed or Typed Name

10/15/2018

Date

71,541

Title or Registration Number

Electronic Acknowledgement Receipt

EFS ID:	34011046
Application Number:	15943337
International Application Number:	
Confirmation Number:	7670
Title of Invention:	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY
First Named Inventor/Applicant Name:	Dale R. Thornberry
Customer Number:	30589
Filer:	Ann M. Robl/Ashley Morales
Filer Authorized By:	Ann M. Robl
Attorney Docket Number:	6338.439
Receipt Date:	15-OCT-2018
Filing Date:	02-APR-2018
Time Stamp:	15:14:57
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	6338439_sb21TransmittalForm _Declarations_Statement.pdf	54718	no	1
			2b7e4303049262c2e2e13d44ad155137471 10457		

Warnings:

Information:					
2	Oath or Declaration filed	6338439_Declarations10152018.pdf	862887	no	4
			5b3aa7c32f066226a82eb44fbd13a6403329390		
Warnings:					
Information:					
3	Assignee showing of ownership per 37 CFR 3.73	6338439_Statement10152018.pdf	96573	no	2
			eeafaecdb04b062f2007376e9e27d6f034c83a8f		
Warnings:					
Information:					
Total Files Size (in bytes):			1014178		
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. <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. <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. <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.					

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.

TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	15/943,337
	Filing Date	04/02/2018
	First Named Inventor	Dale R. Thornberry
	Art Unit	2666
	Examiner Name	Atiba O. Fitzpatrick
	Attorney Docket Number	6338.439
Total Number of Pages in This Submission		

ENCLOSURES (Check all that apply)		
☐ Fee Transmittal Form ☐ Fee Attached ☐ Amendment/Reply ☐ After Final ☐ Affidavits/declaration(s) ☐ Extension of Time Request ☐ Express Abandonment Request ☐ Information Disclosure Statement ☐ Certified Copy of Priority Document(s) ☐ Reply to Missing Parts/ Incomplete Application ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53	☐ Drawing(s) ☐ Licensing-related Papers ☐ Petition ☐ Petition to Convert to a Provisional Application ☐ Power of Attorney, Revocation Change of Correspondence Address ☐ Terminal Disclaimer ☐ Request for Refund ☐ CD, Number of CD(s) _____ ☐ Landscape Table on CD	☐ After Allowance Communication to TC ☐ Appeal Communication to Board of Appeals and Interferences ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) ☐ Proprietary Information ☐ Status Letter ☒ Other Enclosure(s) (please identify below): See Remarks
Remarks ELECTRONICALLY TRANSMITTED: 1. SB21 Transmittal Form (1 pg); and 2. PTOL-85 (1 pg).		
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm Name	DUNLAP CODDING, P.C.	
Signature	<i>Marc Brockhaus</i>	
Printed name	Marc A. Brockhaus	
Date	12/21/2018	Reg. No. 40,923

CERTIFICATE OF TRANSMISSION/MAILING			
I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:			
Signature	<i>Marc Brockhaus</i>		
Typed or printed name	Marc A. Brockhaus	Date	12/21/2018

This collection of information is required by 37 CFR 1.5. 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 2 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.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 or **Fax** (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)

30589 7590 09/25/2018
 DUNLAP CODDING, P.C.
 PO BOX 16370
 OKLAHOMA CITY, OK 73113

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 facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

Marc A. Brockhaus	(Depositor's name)
<i>Marc Brockhaus</i>	(Signature)
12/21/2018	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/943,337	04/02/2018	Dale R. Thornberry	6338.439	7670

TITLE OF INVENTION: SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1000	\$0	\$0	\$1000	12/26/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
FITZPATRICK, ATIBA O	2666	382-100000

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 03-02 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. DUNLAP CODDING, P.C.

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 has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

Pictometry International Corp.

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Rochester, New York

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee
☒ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☒ Payment by credit card. Form PTO-2038 is attached.
☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

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 Marc Brockhaus
 Typed or printed name Marc A. Brockhaus

Date 12/21/2018
 Registration No. 40,923

Electronic Patent Application Fee Transmittal

Application Number:	15943337			
Filing Date:	02-Apr-2018			
Title of Invention:	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY			
First Named Inventor/Applicant Name:	Dale R. Thornberry			
Filer:	Marc Alan Brockhaus/Lori Martin			
Attorney Docket Number:	6338.439			
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:	34667063
Application Number:	15943337
International Application Number:	
Confirmation Number:	7670
Title of Invention:	SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY
First Named Inventor/Applicant Name:	Dale R. Thornberry
Customer Number:	30589
Filer:	Marc Alan Brockhaus/Lori Martin
Filer Authorized By:	Marc Alan Brockhaus
Attorney Docket Number:	6338.439
Receipt Date:	21-DEC-2018
Filing Date:	02-APR-2018
Time Stamp:	10:26:16
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	122118INTEFSW10273300
Deposit Account	
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	6338439_Transmittal12212018.pdf	55665	no	1
			0b096c2bf84f8adcfcb2573b9a8e0be8290b efc3		
Warnings:					
Information:					
2	Issue Fee Payment (PTO-85B)	6338439_PartB.pdf	76099	no	1
			01243b576f87700be28191d4dcf7a0a243c dfecb		
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30513	no	2
			93e3c8864b0e43c5ce9d982ef9f4636f99ae 823b		
Warnings:					
Information:					
Total Files Size (in bytes):			162277		
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. <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. <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. <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.					



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.
15/943,337	02/05/2019	10197391	6338.439	7670

30589 7590 01/16/2019
DUNLAP CODDING, P.C.
PO BOX 16370
OKLAHOMA CITY, OK 73113

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.

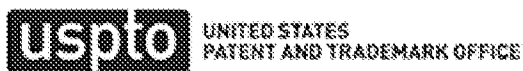
Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

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):

Dale R. Thornberry, Carmel, IN;
Pictometry International Corp., Rochester, NY;
Chris T. Thornberry, Indianapolis, IN;
Mark F. Garringer, Eaton, IN;

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.



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FEE ADDRESS CHANGE

APPLICATION #	FILING OR 371(C) DATE	REQUEST ID
15/943,337	04/02/2018	37733

The following fields have been changed to Customer Number 189081 on 08/10/2022 via Patent Center in view of the certification copied below that authorized the change.

- Maintenance Fee Address

The address for Customer Number 189081 is:

189081 - EagleView
PO BOX 16370
OKLAHOMA CITY, OK 73113

I certify, in accordance with 37 CFR 1.4(d)(4), that I am :

An attorney or Agent of Record registered to practice before the Patent and Trademark Office who has been given power of attorney in this application

Signature	Name	Registration #
/Ann Robl/	ANN ROBL	71541



UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

CORRESPONDENCE ADDRESS CHANGE

APPLICATION #	FILING OR 371(C) DATE	REQUEST ID
15/943,337	04/02/2018	37733

The following fields have been changed to Customer Number 189081 on 08/10/2022 via Patent Center in view of the certification copied below that authorized the change.

- Correspondence Address

The address for Customer Number 189081 is:

189081 - EagleView
PO BOX 16370
OKLAHOMA CITY , OK 73113

I certify, in accordance with 37 CFR 1.4(d)(4), that I am :

An attorney or Agent of Record registered to practice before the Patent and Trademark Office who has been given power of attorney in this application

Signature	Name	Registration #
/Ann Robl/	ANN ROBL	71541

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:



Practitioners associated with Customer Number:

189081

OR



Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:



The address associated with Customer Number:

189081

OR

☐	Firm or Individual Name			
	Address			
	City	State	Zip	
	Country			
	Telephone	Email		

Assignee Name and Address: Pictometry International Corp.
25 Methodist Hill Drive
Rochester, NY 14623

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be Filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of The practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature	/Rebecca Unruh/	Date	August 10, 2022
Name	Rebecca Unruh	Telephone	
Title	Deputy General Counsel, IP and Transactions, Pictometry International Corp.		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to 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.**

UNITED STATES
PATENT AND TRADEMARK OFFICEP.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov**ELECTRONIC ACKNOWLEDGEMENT RECEIPT**APPLICATION #
15/943,337RECEIPT DATE / TIME
08/18/2022 05:52:02 PM ETATTORNEY DOCKET #
6338.439**Title of Invention**

SYSTEM AND PROCESS FOR ROOF MEASUREMENT USING IMAGERY

Application InformationAPPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # 10197391

CONFIRMATION # 7670

FILED BY Lori Martin

PATENT CENTER # 60887504

FILING DATE 04/02/2018

CUSTOMER # 189081

FIRST NAMED
INVENTOR Dale R. ThornberryCORRESPONDENCE
ADDRESS -

AUTHORIZED BY ANN ROBL

Documents**TOTAL DOCUMENTS: 2**

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
6338439__Transmittal.pdf	1	Transmittal Letter	153 KB
6338439__POA.pdf	1	Power of Attorney	87 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
6338439__Transmittal.pdf	D1B49C891CF416C60E23E285FC26AA10B34B1EA6A727416F2 58A2E98A965D246039FF74EFBDDC897158879619765FD7EFD 7A6A4FECACAC2AF520216EA4EDD884

6338439_POA.pdf

ADAE6AB07970FC3FEB5F3BA58964A7EC0D5C7215FDE5BC80
E66296B9D8EE5CB8455B1A5EE8A84E72BDCEA66519EF94E2
73334E53338EEBE835B90E52036A63FD

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 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.

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.

**TRANSMITTAL
FORM**

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	15/943,337
Filing Date	04/02/2018
First Named Inventor	Dale R. Thornberry
Art Unit	2666
Examiner Name	Atiba O. Fitzpatrick
Attorney Docket Number	6338.439

ENCLOSURES (Check all that apply)

☐ Fee Transmittal Form ☐ Fee Attached ☐ Amendment/Reply ☐ After Final ☐ Affidavits/declaration(s) ☐ Extension of Time Request ☐ Express Abandonment Request ☐ Information Disclosure Statement ☐ Certified Copy of Priority Document(s) ☐ Reply to Missing Parts/ Incomplete Application ☐ Reply to Missing Parts under 37 CFR 1.52 or 1.53	☐ Drawing(s) ☐ Licensing-related Papers ☐ Petition ☐ Petition to Convert to a Provisional Application ☒ Power of Attorney, Revocation Change of Correspondence Address ☐ Terminal Disclaimer ☐ Request for Refund ☐ CD, Number of CD(s) _____ ☐ Landscape Table on CD	☐ After Allowance Communication to TC ☐ Appeal Communication to Board of Appeals and Interferences ☐ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) ☐ Proprietary Information ☐ Status Letter ☒ Other Enclosure(s) (please identify below): See Remarks
Remarks ELECTRONICALLY TRANSMITTED: 1. SB21 Transmittal Form (1 pg); and 2. Power of Attorney (1 pg).		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	DUNLAP CODDING, P.C.		
Signature	/Ann M. Robl/		
Printed name	Ann M. Robl		
Date	08/16/2022	Reg. No.	71,541

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature	/Ann M. Robl/		
Typed or printed name	Ann M. Robl	Date	08/16/2022

This collection of information is required by 37 CFR 1.5. 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 2 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.

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/943,337	04/02/2018	Dale R. Thornberry	6338.439

189081
EagleView
PO BOX 16370
OKLAHOMA CITY, OK 73113

CONFIRMATION NO. 7670
POA ACCEPTANCE LETTER



Date Mailed: 08/26/2022

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 08/18/2022.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/rmohamed/



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189081
EagleView
PO BOX 16370
OKLAHOMA CITY, OK 73113

CONFIRMATION NO. 7670
POWER OF ATTORNEY NOTICE



OC000000136046659

Date Mailed: 08/26/2022

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 08/18/2022.

- The Power of Attorney to you in this application has been revoked by the applicant. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/rmohamed/