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UTILITY PATENT APPLICATION TRANSMITTAL (Only for new nonprovisional applications under 37 CFR 1.53(b))	Attorney Docket No.	308329-00021
	First Named Inventor	Allen Garrett Smith
	Title	Grounding System
	Express Mail Label No.	

APPLICATION ELEMENTS <i>See MPEP chapter 600 concerning utility patent application contents.</i>	Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450
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1. ☐ Fee Transmittal Form (PTO/SB/17 or equivalent)	ACCOMPANYING APPLICATION PAPERS
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>21</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>10</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	
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: _____ _____ _____ _____	

***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>03705</u> OR ☐ Correspondence address below					
Name					
Address					
City		State		Zip Code	
Country		Telephone		Email	
Signature	/David C. Jenkins/			Date	2017-10-05
Name (Print/Type)	David C. Jenkins			Registration No. (Attorney/Agent)	42691

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.

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.

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	308329-00021
		Application Number	
Title of Invention	Grounding System		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2:

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

Inventor 1					Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Allen	Garrett	Smith		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	Johnstown	State/Province	PA	Country of Residence	US
Mailing Address of Inventor:					
Address 1	180 Kenesaw Lane				
Address 2					
City	Johnstown	State/Province	PA		
Postal Code	15905	Country	US		
Inventor 2					Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Gregory	Stephen	Platt		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	Windber	State/Province	PA	Country of Residence	US
Mailing Address of Inventor:					
Address 1	153 Wood Street				
Address 2					
City	Windber	State/Province	PA		
Postal Code	15963	Country	US		
Inventor 3					Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Timothy	Joseph	Wedding		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	308329-00021		
		Application Number			
Title of Invention	Grounding System				
City	Johnstown	State/Province	PA	Country of Residence ⁱ	US
Mailing Address of Inventor:					
Address 1		81 Schrader Aveue			
Address 2					
City	Johnstown	State/Province	PA		
Postal Code	15902	Country ⁱ	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
☐ An Address is being provided for the correspondence information of this application.			
Customer Number	03705		
Email Address	ipmail@eckertseamans.com	Add Email	Remove Email

Application Information:

Title of the Invention	Grounding System		
Attorney Docket Number	308329-00021	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	10	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	308329-00021
		Application Number	
Title of Invention	Grounding System		

Representative Information:

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

Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	03705		

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		Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)

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 ^j (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	308329-00021
		Application Number	
Title of Invention	Grounding System		

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.
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	308329-00021
		Application Number	
Title of Invention	Grounding System		

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	308329-00021
		Application Number	
Title of Invention	Grounding System		

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.			
Applicant 1			
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.			
Clear			
☒ Assignee	☐ Legal Representative under 35 U.S.C. 117	☐ Joint Inventor	
☐ Person to whom the inventor is obligated to assign.		☐ Person who shows sufficient proprietary interest	
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:			
Name of the Deceased or Legally Incapacitated Inventor:			
If the Applicant is an Organization check here. ☒			
Organization Name	Cambria County Association for the Blind and Handicapped		
Mailing Address Information For Applicant:			
Address 1	211 Central Avenue		
Address 2			
City	Johnstown	State/Province	PA
Country	US	Postal Code	15902-2945
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	308329-00021
		Application Number	
Title of Invention	Grounding System		

Assignee 1			
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.			
If the Assignee or Non-Applicant Assignee is an Organization check here. ☒			
Organization Name	Cambria County Association for the Blind and Handicapped		
Mailing Address Information For Assignee including Non-Applicant Assignee:			
Address 1	211 Central Avenue		
Address 2			
City	Johnstown	State/Province	PA
Country ⁱ	US	Postal Code	15902-2945
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	/David C. Jenkins/		Date (YYYY-MM-DD)	2017-10-05	
First Name	David C.	Last Name	Jenkins	Registration Number	42691
Additional Signature may be generated within this form by selecting the Add button.					

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	308329-00021
		Application Number	
Title of Invention	Grounding System		

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

Privacy Act Statement

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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).
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6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		GROUNDING SYSTEM		
First Named Inventor/Applicant Name:		ALLEN GARRETT SMITH		
Filer:		David C. Jenkins/JANICE JENE		
Attorney Docket Number:		308329-00021		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY FILING FEE (ELECTRONIC FILING)	4011	1	70	70
UTILITY SEARCH FEE	2111	1	300	300
UTILITY EXAMINATION FEE	2311	1	360	360
Pages:				
Claims:				
Miscellaneous-Filing:				
LATE FILING FEE FOR OATH OR DECLARATION	2051	1	70	70
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 (\$)				800

Electronic Acknowledgement Receipt

EFS ID:	30575868
Application Number:	15725668
International Application Number:	
Confirmation Number:	2706
Title of Invention:	GROUNDING SYSTEM
First Named Inventor/Applicant Name:	ALLEN GARRETT SMITH
Customer Number:	3705
Filer:	David C. Jenkins/JANICE JENE
Filer Authorized By:	David C. Jenkins
Attorney Docket Number:	308329-00021
Receipt Date:	05-OCT-2017
Filing Date:	
Time Stamp:	14:19:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$800
RAM confirmation Number	100617INTEFSW14201000
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	Drawings-only black and white line drawings	308329-00021INFORMALFIGS.pdf	375747	no	10
			be586597be5fcf93b52c0a4373f075f8c1a56c		
Warnings:					
Information:					
2	Transmittal Letter	308329-00021IDSTRANSMITTAL.pdf	716239	no	1
			967a096e75f6ea46309d1813649b509e97268abb		
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	308329-00021IDS.pdf	714524	no	4
			d35f7ca51cad3a3872fb70af5ac71502e9f33c1		
Warnings:					
Information:					
This is not an USPTO supplied IDS fillable form					
4		308329-00021PATENTAPPL.pdf	13445805	yes	21
			f9aaa1d22500871a03a06f066f98bd07d83a2a0b		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	17	
	Claims		18	20	
	Abstract		21	21	
Warnings:					
Information:					

5	Transmittal of New Application	308329-00021COVER.pdf	1262517	no	2
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Warnings:					
Information:					
6	Application Data Sheet	308329-00021APPLDATA.pdf	1450410	no	9
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Warnings:					
Information:					
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7	Fee Worksheet (SB06)	fee-info.pdf	36392	no	2
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Electronic Acknowledgement Receipt

EFS ID:	30575868
Application Number:	15725668
International Application Number:	
Confirmation Number:	2706
Title of Invention:	GROUNDING SYSTEM
First Named Inventor/Applicant Name:	ALLEN GARRETT SMITH
Customer Number:	3705
Filer:	David C. Jenkins/JANICE JENE
Filer Authorized By:	David C. Jenkins
Attorney Docket Number:	308329-00021
Receipt Date:	05-OCT-2017
Filing Date:	
Time Stamp:	14:19:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$800
RAM confirmation Number	100617INTEFSW14201000
Deposit Account	
Authorized User	
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File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Drawings-only black and white line drawings	308329-00021INFORMALFIGS.pdf	375747	no	10
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Warnings:					
Information:					
2	Transmittal Letter	308329-00021IDSTRANSMITTAL.pdf	716239	no	1
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Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	308329-00021IDS.pdf	714524	no	4
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Warnings:					
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4		308329-00021PATENTAPPL.pdf	13445805	yes	21
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	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	17	
	Claims		18	20	
	Abstract		21	21	
Warnings:					
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5	Transmittal of New Application	308329-00021COVER.pdf	1262517	no	2
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Warnings:					
Information:					
6	Application Data Sheet	308329-00021APPLDATA.pdf	1450410	no	9
			8736c969c0f28b002196c5817a295ab7f5d3d642		
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7	Fee Worksheet (SB06)	fee-info.pdf	36392	no	2
			225fe74a3b39378fd03c89b185a0063cd21e3b2f		
Warnings:					
Information:					
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Fig. 2

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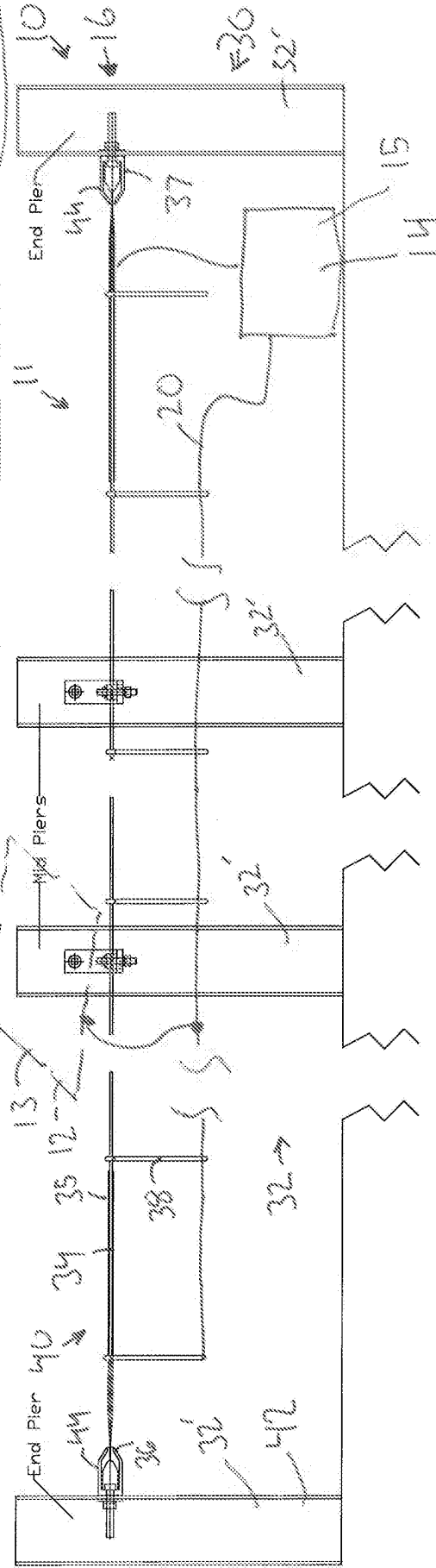
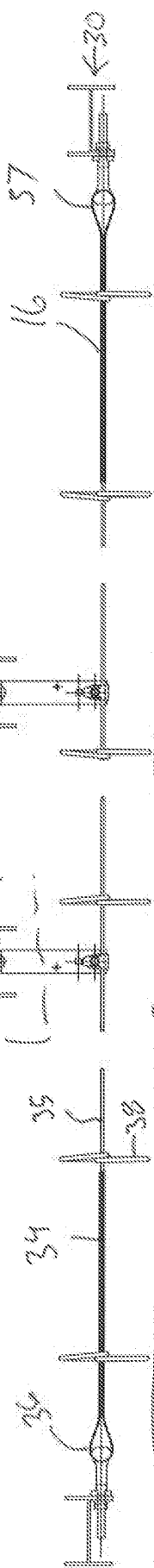
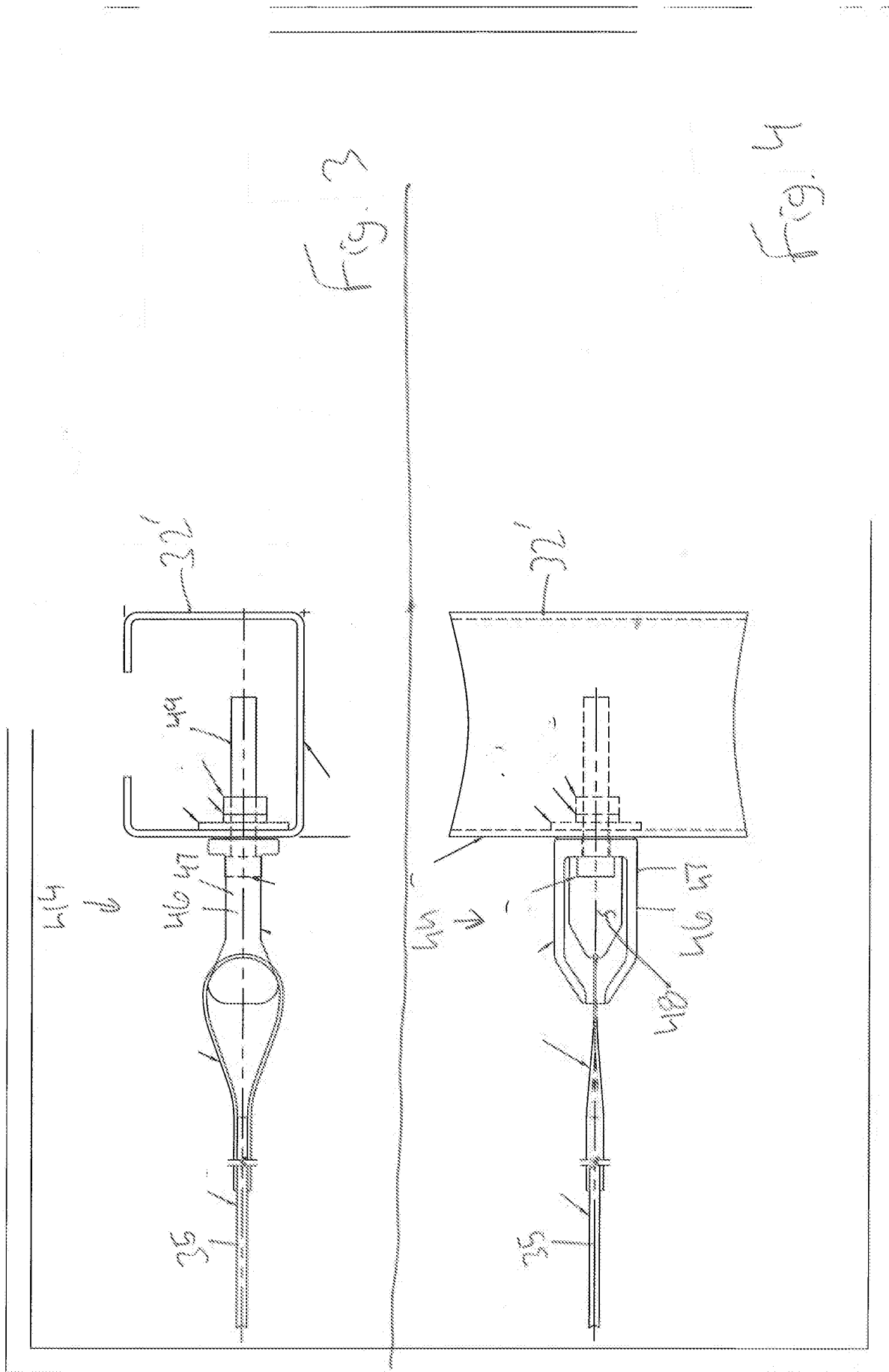


Fig. 1



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11

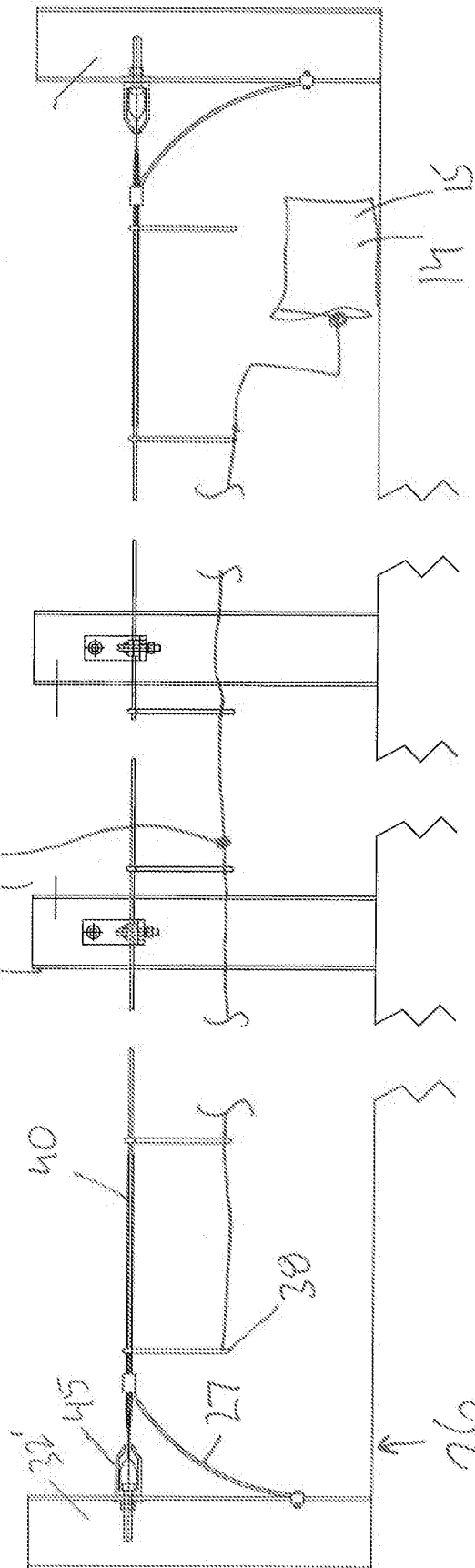


Fig. 5

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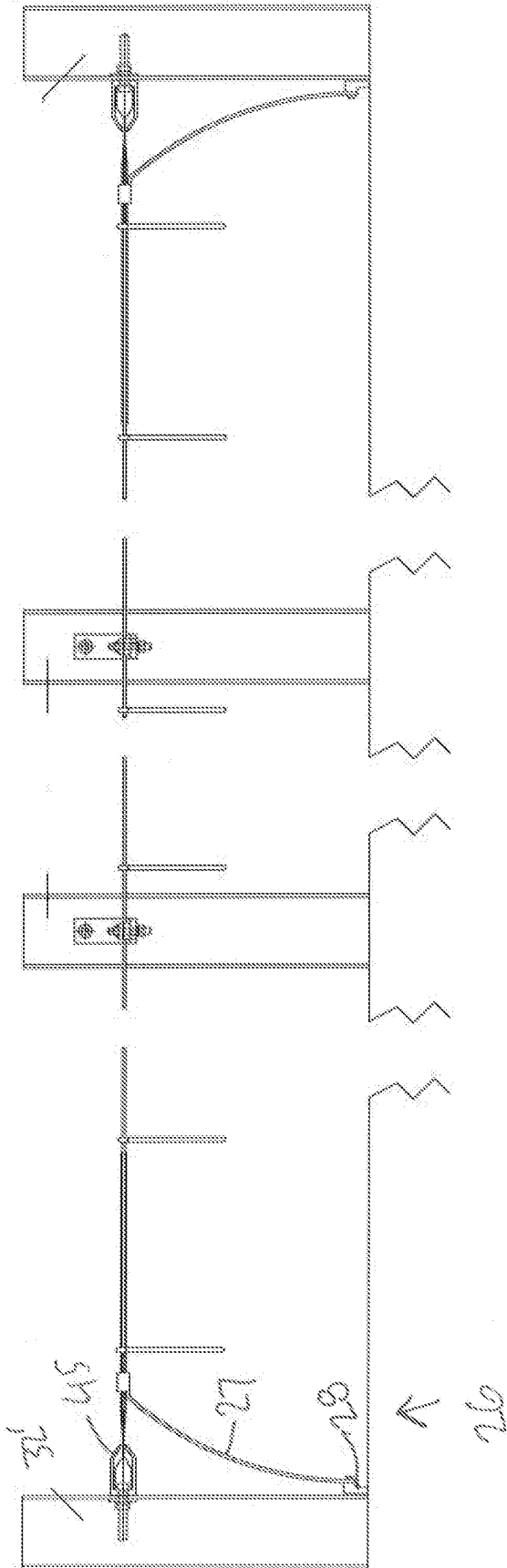


Fig. 6

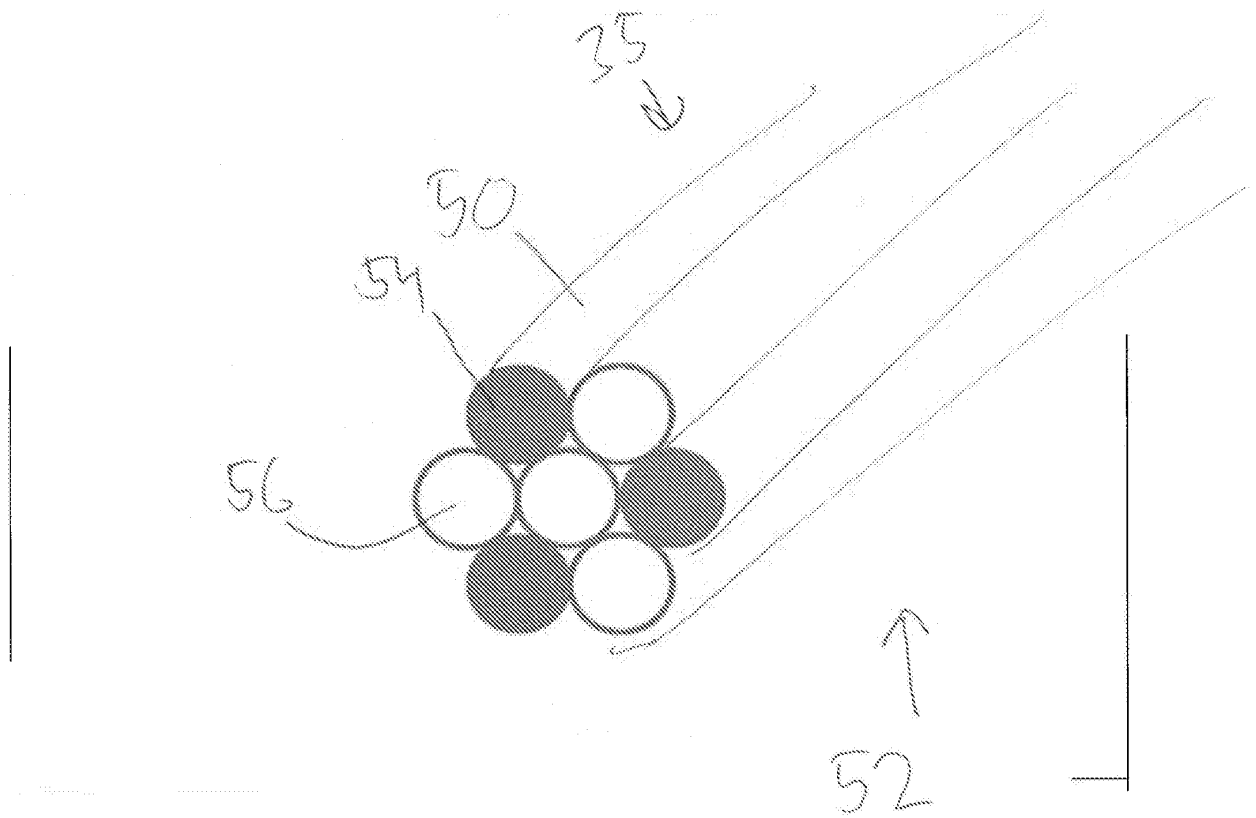


Fig 7

Fig. 8A

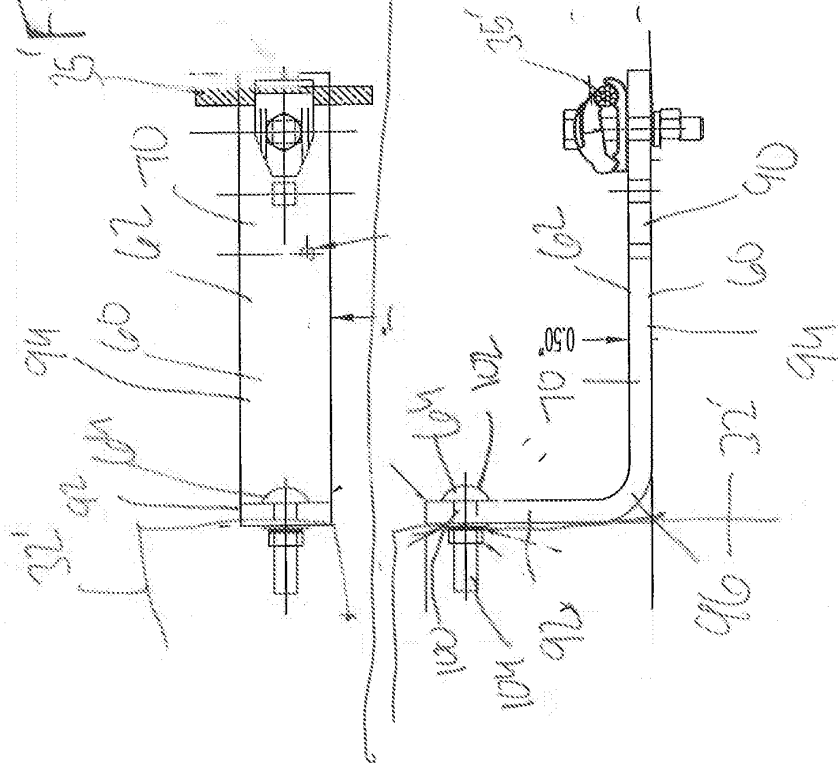


Fig. 8B

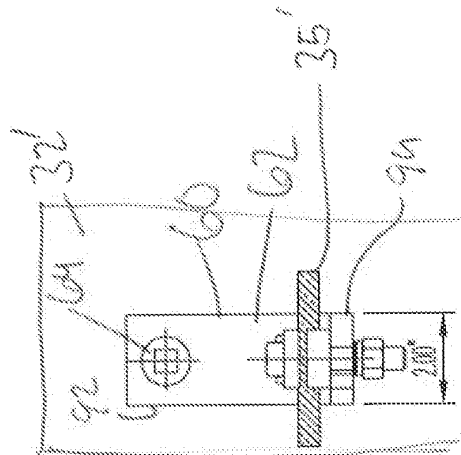
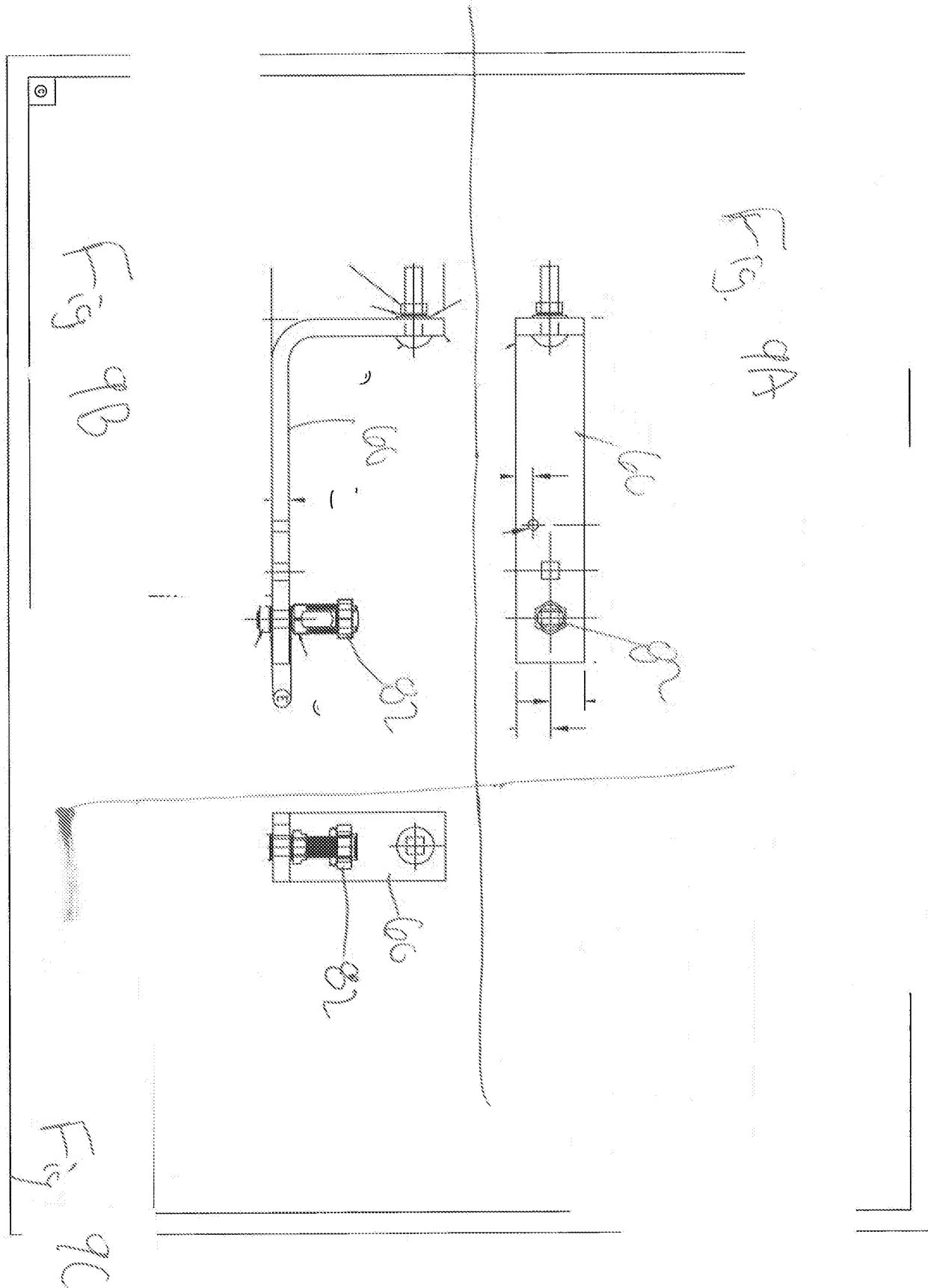


Fig. 8C



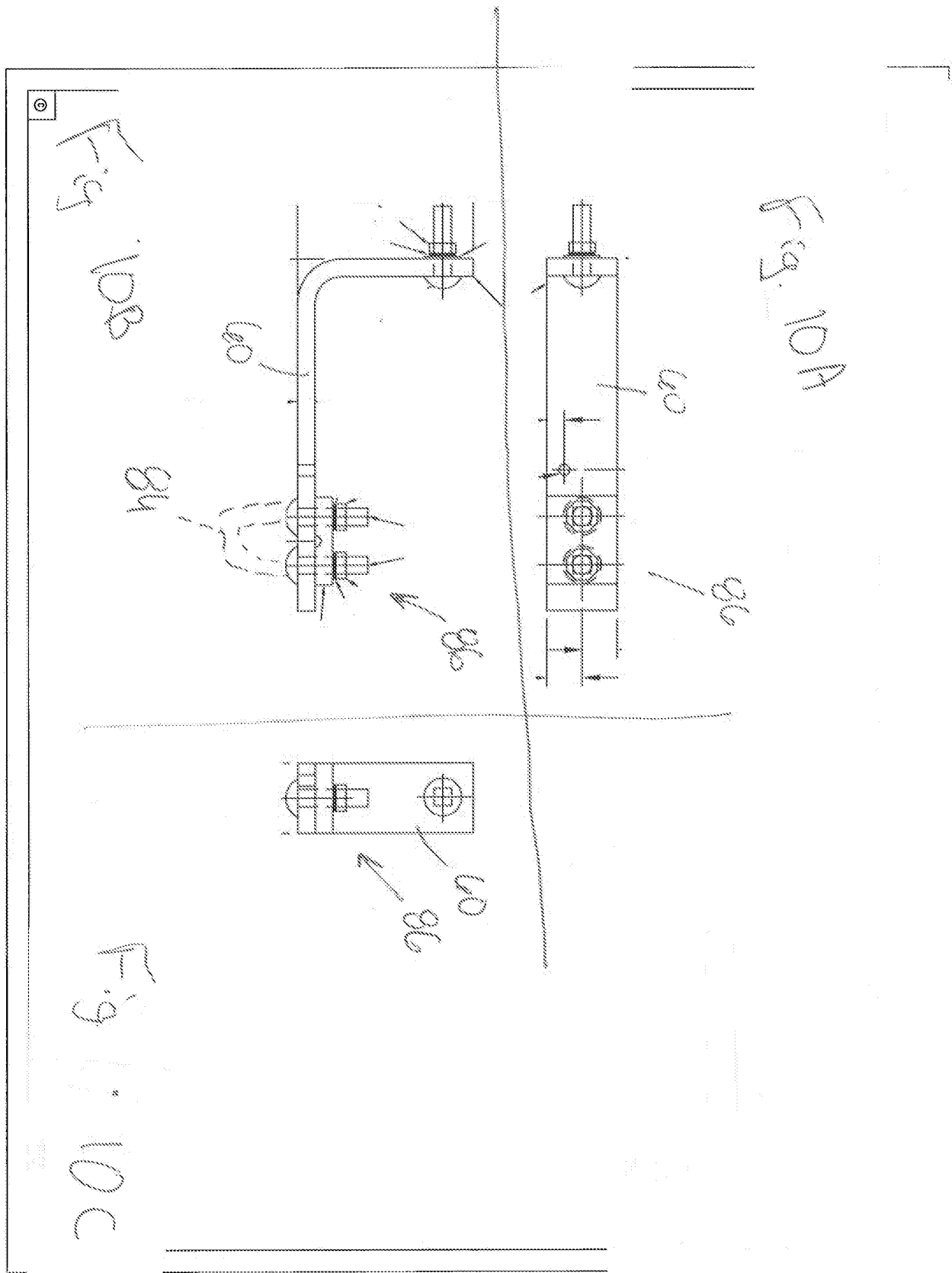


Fig. 11A

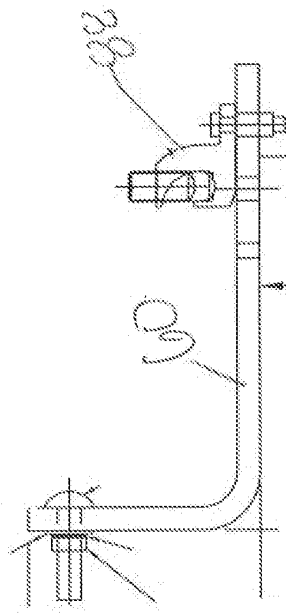
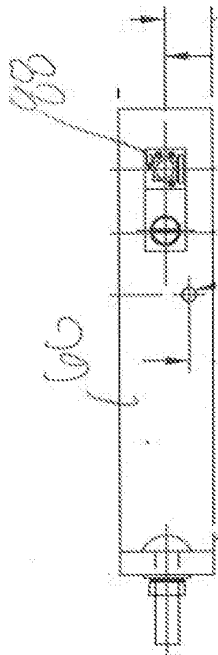


Fig. 11B

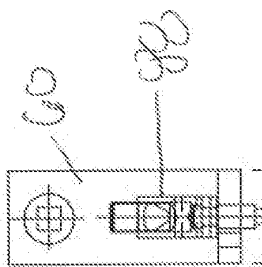


Fig. 11C

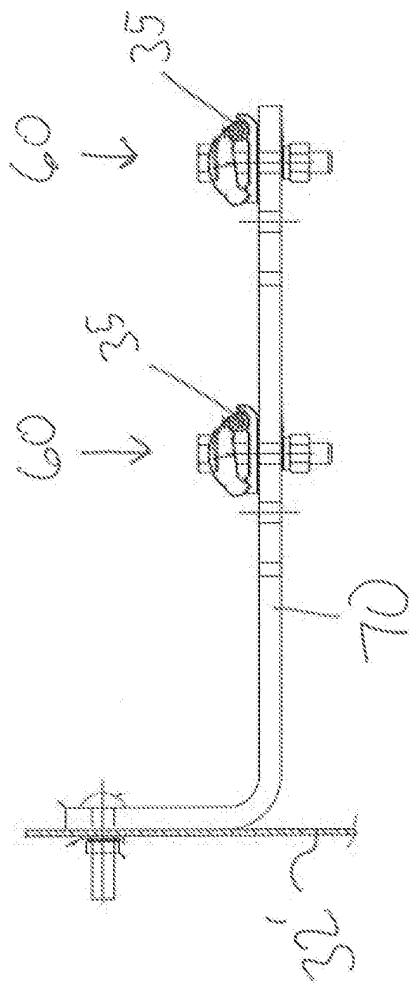


Fig. 12

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
)
)
ALLEN GARRETT SMITH) **GROUNDING SYSTEM**
Et al.)
)
Filed herewith) Attorney Docket No. 308329-00021

INFORMATION DISCLOSURE STATEMENT

October 5, 2017

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

Dear Sir:

Pursuant to the provisions of 37 CFR Sections 1.56, 1.97 and 1.98, Applicants submit herewith the attached Form PTO/SB/08A for consideration during prosecution of the subject Application.

This Statement is filed solely for the purpose of complying with the pertinent rules of the Office and is not intended to be a substitute for an independent evaluation by the examiner of the art cited or an independent search by the examiner, and no representation of any nature is made or intended by the filing of this Statement.

In addition to the art cited on Form PTO/SB/08A, Applicants and/or their attorneys may have been exposed to or considered additional art relating to the general class of the subject matter of the invention. However, if in fact such exposure or consideration has occurred, to the best of their recall or judgment, none of such art is prior art which is more relevant than the art cited.

Respectfully submitted,

/David C. Jenkins/

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Registration No. 42,691
Eckert Seamans Cherin & Mellott, LLC
600 Grant Street, 44th Floor
Pittsburgh, PA 15219
Attorney for Applicants

(412) 566-1253

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		
	Filing Date		
	First Named Inventor	Allen Garrett Smith	
	Art Unit		
	Examiner Name		
	Attorney Docket Number	308329-00021	

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	
Filing Date	
First Named Inventor	Allen Garrett Smith
Art Unit	
Examiner Name	
Attorney Docket Number	308329-00021

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Examiner Signature		Date Considered	

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

Application Number	
Filing Date	
First Named Inventor	Allen Garrett Smith
Art Unit	
Examiner Name	
Attorney Docket Number	308329-00021

CERTIFICATION STATEMENT

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

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

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

☐ See attached certification statement.

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

☒ A certification statement is not submitted herewith.

SIGNATURE

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

Signature	/David C. Jenkins/	Date (YYYY-MM-DD)	2017-10-05
Name/Print	David C. Jenkins	Registration Number	42691

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

GROUNDING SYSTEM

BACKGROUND OF THE INVENTION

Field of the Invention

5 The disclosed and claimed concept relates to a grounding system for a suspended cable assembly and, more particularly, to a grounding system that includes conductive elements whereby grounding cables do not need to be spliced into a conductor wire disposed adjacent a messenger wire, and, to a system wherein a multi-function line provides support and a current path.

Background Information

10 In solar, mining, and electrical industries there is a need for electrical cables to extend from a power or signal source to a location of application. Such cables are usually indirectly connected and supported by a support assembly including a number of poles or piles (hereinafter, and collectively, “piles”), a messenger wire, and a number of cable hangers. That is, a number of piles provide elevated support points extending along a selected path. The “messenger wire” is, and as used herein, a robust cable structured to support a number of other wires (hereinafter “supported wires”) and which is not structured to carry a signal or power. The support assembly further includes a grounding conductor or a grounding conductor wire that is disposed adjacent the messenger wire and/or among the supported wires. The messenger wire is coupled to the piles at an elevated location. The number of cable hangers are then coupled to the messenger wire. The cable hangers are structured to support the supported wires such as, but not limited to, electrical and signal wires.

25 For example, solar plants comprise large arrays of solar panels spread out over a large area. The solar panels are supported by a racking assembly coupled to a pile or other support. The solar panels collect the sun's rays causing a current to flow to current wires that are attached to the solar panels. The current flows to other equipment (collectively, along with any equipment downstream of the solar panels, “solar electrical equipment”).

30 For example, in one embodiment, the solar panels generate a direct current that is communicated to combiner boxes before being communicated to power inverters wherein

the direct current is converted to alternating current. In another embodiment, each solar panel has a micro-inverter that converts the current to alternating current which is then communicated to other solar electrical equipment. Accordingly, as used herein, any conductor that carries current, direct or alternating, from a solar panel is, as used herein, a “current wire.” Each current wire extends away from the associated solar panel and is grouped with a bundle of similar current wires from other solar panels. The bundle of current wires is supported by a series of cable hangers suspended from a messenger wire. The messenger wire is supported by a number of piles extending adjacent the solar panels or which support the solar panels.

While the messenger wire is not structured to carry a current, there are instances wherein the messenger wire does carry a current. For example, lightning is known to strike the messenger wires, the current wire(s), the solar electrical equipment, the support piles, or any other construct coupled to these elements. Further, a current wire, or any other wire carrying a current can fail creating a short or other undesirable current in the supported bundle of wires. This is why a conductor or grounding wire is disposed adjacent the messenger wires; hereinafter, such a wire is identified as a “grounding conductor.” The grounding conductor must be coupled to a current path to the ground. Further, many regulations require that the grounding conductor be grounded at each pile. Presently, the grounding conductor is grounded by splicing a conductor, such as, but not limited to, a copper wire into the grounding conductor and coupling the copper wire to a grounding cable or, if the piles are conductive, to each pile. That is, the copper wire must be spliced into the grounding conductor, *i.e.*, a “grounding splice,” and, then electrically coupled to the pile or a ground cable. The process of installing the conductors, *i.e.*, splicing the copper wire into the grounding conductor and making an electrical coupling with the pile is difficult, time consuming and expensive. These are problems of the known art.

There is, therefore, a need for a grounding system that is less expensive and which can be installed quickly and easily. There is a further need for the grounding system to be compatible with existing support assemblies.

SUMMARY OF THE INVENTION

These needs, and others, are met by at least one embodiment of the disclosed and claimed concept which provides a grounding system structured to ground a number of cables supported by a support assembly. The grounding system includes a multi-function line assembly and a number of conductive mounting assemblies. Each conductive mounting assembly is structured to be, and is, coupled to the multi-function line and to a conductive pile. This configuration provides a path to ground for a current in the multi-function line assembly. Further, the multi-function line supports the cable hangers (which support the current wires, data wires and other wires). That is, a single multi-function line supports the cable hangers, as a messenger wire, and provides a current path, as a grounding conductor. Accordingly, as used herein, a “multi-function line” means a tension member that supports current wires and/or cable hangers, and, which is conductive. That is, a messenger wire is not a “multi-function line.” Similarly, a conductor that does not support other constructs is not a “multi-function line.”

A grounding system in this configuration, and as discussed below, solves the problems noted above.

BRIEF DESCRIPTION OF THE DRAWINGS

A full understanding of the invention can be gained from the following description of the preferred embodiments when read in conjunction with the accompanying drawings in which:

Figure 1 is a schematic side view of an installation.

Figure 2 is a schematic top view of an installation.

Figure 3 is a top view of a conductive terminal support.

Figure 4 is a side view of a conductive terminal support.

Figure 5 is a schematic side view of an installation.

Figure 6 is a schematic side view of an installation.

Figure 7 is an isometric, cross-sectional view of a multi-function line with a partially conductive body.

Figure 8A is a top view of a multi-function line coupling with a clamping assembly.

Figure 8B is a side view of a multi-function line coupling with a clamping assembly. Figure 8C is a front view of a multi-function line coupling with a clamping assembly.

Figure 9A is a top view of a multi-function line coupling with a split bolt. Figure 9B is a side view of a multi-function line coupling with a split bolt. Figure 9C is a front view of a multi-function line coupling with a split bolt.

Figure 10A is a top view of a multi-function line coupling with a double bolt and retaining plate. Figure 10B is a side view of a multi-function line coupling with a double bolt and retaining plate. Figure 10C is a front view of a multi-function line coupling with a double bolt and retaining plate.

Figure 11A is a top view of a multi-function line coupling with a lay-in lug assembly. Figure 11B is a side view of a multi-function line coupling with a lay-in lug assembly. Figure 11C is a front view of a multi-function line coupling with a lay-in lug assembly.

Figure 12 is a side view of a multi-function line coupling structured to support a plurality of multi-function lines.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

It will be appreciated that the specific elements illustrated in the figures herein and described in the following specification are simply exemplary embodiments of the disclosed concept, which are provided as non-limiting examples solely for the purpose of illustration. Therefore, specific dimensions, orientations, assembly, number of components used, embodiment configurations and other physical characteristics related to the embodiments disclosed herein are not to be considered limiting on the scope of the disclosed concept.

Directional phrases used herein, such as, for example, clockwise, counterclockwise, left, right, top, bottom, upwards, downwards and derivatives thereof, relate to the orientation of the elements shown in the drawings and are not limiting upon the claims unless expressly recited therein.

As used herein, the singular form of "a," "an," and "the" include plural references unless the context clearly dictates otherwise.

As used herein, “structured to [verb]” means that the identified element or assembly has a structure that is shaped, sized, disposed, coupled and/or configured to perform the identified verb. For example, a member that is “structured to move” is movably coupled to another element and includes elements that cause the member to move or the member is otherwise configured to move in response to other elements or assemblies. As such, and as used herein, “structured to [verb]” recites structure and not function. Further, as used herein, “structured to [verb]” means that the identified element or assembly is intended to, and is designed to, perform the identified verb. Thus, an element that is merely capable of performing the identified verb but which is not intended to, and is not designed to, perform the identified verb is not “structured to [verb].”

As used herein, “associated” means that the elements are part of the same assembly and/or operate together, or, act upon/with each other in some manner. For example, an automobile has four tires and four hub caps. While all the elements are coupled as part of the automobile, it is understood that each hubcap is “associated” with a specific tire.

As used herein, a “coupling assembly” includes two or more couplings or coupling components. The components of a coupling or coupling assembly are generally not part of the same element or other component. As such, the components of a “coupling assembly” may not be described at the same time in the following description.

As used herein, a “coupling” or “coupling component(s)” is one or more component(s) of a coupling assembly. That is, a coupling assembly includes at least two components that are structured to be coupled together. It is understood that the components of a coupling assembly are compatible with each other. For example, in a coupling assembly, if one coupling component is a snap socket, the other coupling component is a snap plug, or, if one coupling component is a bolt, then the other coupling component is a nut.

As used herein, a “fastener” is a separate component structured to couple two or more elements. Thus, for example, a bolt is a “fastener” but a tongue-and-groove coupling is not a “fastener.” That is, the tongue-and-groove elements are part of the elements being coupled and are not a separate component.

As used herein, the statement that two or more parts or components are “coupled” shall mean that the parts are joined or operate together either directly or indirectly, *i.e.*,

through one or more intermediate parts or components, so long as a link occurs. As used herein, “directly coupled” means that two elements are directly in contact with each other. As used herein, “fixedly coupled” or “fixed” means that two components are coupled so as to move as one while maintaining a constant orientation relative to each other.

5 Accordingly, when two elements are coupled, all portions of those elements are coupled. A description, however, of a specific portion of a first element being coupled to a second element, *e.g.*, an axle first end being coupled to a first wheel, means that the specific portion of the first element is disposed closer to the second element than the other portions thereof. Further, an object resting on another object held in place only by gravity is not “coupled”

10 to the lower object unless the upper object is otherwise maintained substantially in place. That is, for example, a book on a table is not coupled thereto, but a book glued to a table is coupled thereto.

As used herein, the phrase “removably coupled” or “temporarily coupled” means that one component is coupled with another component in an essentially temporary manner.

15 That is, the two components are coupled in such a way that the joining or separation of the components is easy and would not damage the components. For example, two components secured to each other with a limited number of readily accessible fasteners, *i.e.*, fasteners that are not difficult to access, are “removably coupled” whereas two components that are welded together or joined by difficult to access fasteners are not “removably coupled.” A

20 “difficult to access fastener” is one that requires the removal of one or more other components prior to accessing the fastener wherein the “other component” is not an access device such as, but not limited to, a door.

As used herein, “temporarily disposed” means that a first element(s) or assembly (ies) is resting on a second element(s) or assembly(ies) in a manner that allows the first

25 element/assembly to be moved without having to decouple or otherwise manipulate the first element. For example, a book simply resting on a table, *i.e.*, the book is not glued or fastened to the table, is “temporarily disposed” on the table.

As used herein, “operatively coupled” means that a number of elements or assemblies, each of which is movable between a first position and a second position, or a

30 first configuration and a second configuration, are coupled so that as the first element moves from one position/configuration to the other, the second element moves between

positions/configurations as well. It is noted that a first element may be “operatively coupled” to another without the opposite being true.

As used herein, “correspond” indicates that two structural components are sized and shaped to be similar to each other and may be coupled with a minimum amount of friction. Thus, an opening which “corresponds” to a member is sized slightly larger than the member so that the member may pass through the opening with a minimum amount of friction. This definition is modified if the two components are to fit “snugly” together. In that situation, the difference between the size of the components is even smaller whereby the amount of friction increases. If the element defining the opening and/or the component inserted into the opening are made from a deformable or compressible material, the opening may even be slightly smaller than the component being inserted into the opening. With regard to surfaces, shapes, and lines, two, or more, “corresponding” surfaces, shapes, or lines have generally the same size, shape, and contours.

As used herein, a “path of travel” or “path,” when used in association with an element that moves, includes the space an element moves through when in motion. As such, any element that moves inherently has a “path of travel” or “path.” Further, a “path of travel” or “path” relates to a motion of one identifiable construct as a whole relative to another object. For example, assuming a perfectly smooth road, a rotating wheel (an identifiable construct) on an automobile generally does not move relative to the body (another object) of the automobile. That is, the wheel, as a whole, does not change its position relative to, for example, the adjacent fender. Thus, a rotating wheel does not have a “path of travel” or “path” relative to the body of the automobile. Conversely, the air inlet valve on that wheel (an identifiable construct) does have a “path of travel” or “path” relative to the body of the automobile. That is, while the wheel rotates and is in motion, the air inlet valve as a whole, moves relative to the body of the automobile.

As used herein, and with respect to electricity or a current, a current “path” means one, or a plurality of coupled conductive elements, that provide a route through which electricity travels.

As used herein, the statement that two or more parts or components “engage” one another means that the elements exert a force or bias against one another either directly or through one or more intermediate elements or components. Further, as used herein with

regard to moving parts, a moving part may “engage” another element during the motion from one position to another and/or may “engage” another element once in the described position. Thus, it is understood that the statements, “when element A moves to element A first position, element A engages element B,” and “when element A is in element A first position, element A engages element B” are equivalent statements and mean that element A either engages element B while moving to element A first position and/or element A either engages element B while in element A first position.

As used herein, “operatively engage” means “engage and move.” That is, “operatively engage” when used in relation to a first component that is structured to move a movable or rotatable second component means that the first component applies a force sufficient to cause the second component to move. For example, a screwdriver may be placed into contact with a screw. When no force is applied to the screwdriver, the screwdriver is merely “coupled” to the screw. If an axial force is applied to the screwdriver, the screwdriver is pressed against the screw and “engages” the screw. However, when a rotational force is applied to the screwdriver, the screwdriver “operatively engages” the screw and causes the screw to rotate.

As used herein, “depending” means to extend at an angle other than zero (0°) from another element without regard to direction. That is, for example, a “depending” sidewall may extend generally upwardly from a base. Further, a “depending” sidewall inherently has a distal end.

As used herein, the word “unitary” means a component that is created as a single piece or unit. That is, a component that includes pieces that are created separately and then coupled together as a unit is not a “unitary” component or body.

As used herein, the term “number” shall mean one or an integer greater than one (*i.e.*, a plurality). Thus, for example, a “number of elements” means one element or a plurality of elements.

As used herein, in the phrase “[x] moves between its first position and second position,” or, “[y] is structured to move [x] between its first position and second position,” “[x]” is the name of an element or assembly. Further, when [x] is an element or assembly that moves between a number of positions, the pronoun “its” means “[x],” *i.e.*, the named element or assembly that precedes the pronoun “its.”

As used herein, a “radial side/surface” for a circular or cylindrical body is a side/surface that extends about, or encircles, the center thereof or a height line passing through the center thereof. As used herein, an “axial side/surface” for a circular or cylindrical body is a side that extends in a plane extending generally perpendicular to a height line passing through the center. That is, generally, for a cylindrical soup can, the “radial side/surface” is the generally circular sidewall and the “axial side(s)/surface(s)” are the top and bottom of the soup can. Further, as used herein, a “radially extending surface” means a surface defined by a plane that extends generally along a radial line and/or a surface that is generally perpendicular to an axial surface.

As used herein, “about” in a phrase such as “disposed about [an element, point or axis]” or “extend about [an element, point or axis]” or “[X] degrees about an [an element, point or axis],” means encircle, extend around, or measured around. When used in reference to a measurement or in a similar manner, “about” means “approximately,” *i.e.*, in an approximate range relevant to the measurement as would be understood by one of ordinary skill in the art.

As used herein, “generally curvilinear” includes elements having multiple curved portions, combinations of curved portions and planar portions, and a plurality of planar portions or segments disposed at angles relative to each other thereby forming a curve.

As used herein, “generally” means “in a general manner” relevant to the term being modified as would be understood by one of ordinary skill in the art.

As used herein, “substantially” means “for the most part” relevant to the term being modified as would be understood by one of ordinary skill in the art.

As used herein, “at” means on and/or near relevant to the term being modified as would be understood by one of ordinary skill in the art.

As shown in Figures 1 and 2, an installation 10 includes a number of source assemblies 12 and a number of receiving assemblies 14 as well as a transmission assembly 16. As used herein, a “source assembly” is an assembly that produces electricity, communication/data signals, or anything that is capable of being transmitted over a wire and/or a conductor. As used herein, a “receiving assembly” is an assembly that receives the electricity, communication/data signals. In an exemplary embodiment, as shown, the installation 10 is a solar power generation facility 11, the source assemblies 12 are solar

panels 13, and the receiving assembly 14 (one shown) is a combiner box 15. The transmission assembly 16 is structured to support current wire(s) 20 (as defined above) and data wires (not shown). As shown, the current wire(s) 20 provide a current path from the solar panels 13 to any solar electrical equipment 15. It is understood that there are also
5 conducting wires (not shown) from another source of electricity, such as, but not limited to a source of A/C current. The A/C current is used to operate devices at the solar panels 13 such as, but not limited to, positioning devices and monitoring devices.

The transmission assembly 16 includes a support assembly 30 and a grounding system 40. In an exemplary embodiment, the support assembly 30 includes number of
10 piles 32, a number of multi-function line assemblies 34, and a number of cable hangers 38. The piles 32 are structured to support the multi-function line assemblies 34 (one shown) at an elevation above the ground. The multi-function line assemblies 34 include a multi-function line 35 and two terminal ends 36, 37. The multi-function line 35 is structured to support the cable hangers 38 which, in turn, support the current wire(s) 20 and the data
15 wires.

In one embodiment, as shown in Figures 3 and 4, the multi-function line assembly terminal ends 36, 37 include a conductive terminal support 44. As used herein, a “conductive terminal support” 44 is structured to couple a multi-function line 35 to a support, draw the multi-function line 35 taut, and provide a current path between the multi-
20 function line 35 and the support. The support is, for example a conductive pile 32’ (discussed below). One embodiment of a multi-function line assembly terminal end 36 includes a thimble eye 46 that includes a body 47 defining an aperture 48 and which includes a threaded base 49. The thimble eye 46 is made from a conductive material. As is known, the multi-function line 35 is passed through the thimble eye body aperture 48 and coupled to itself so as to form a loop. The thimble eye body threaded base 49 is coupled
25 to a conductive pile 32’ and drawn tight using a nut (not numbered). In this configuration, the multi-function line 35 and the conductive terminal support 44 are in electrical communication and provide a current path to the conductive pile 32’. That is, the multi-function line 35, the conductive terminal support 44 and the conductive pile 32’ define,
30 collectively, a current path and the path between the multi-function line 35 and the

conductive terminal support 44 is the exclusive current path between the multi-function line 35 and the conductive pile 32'.

In another embodiment, shown in Figures 5 and 6, the multi-function line assembly terminal ends 36, 37 include a non-conductive terminal support 45 as well as a grounding assembly 26. In this embodiment, the non-conductive terminal support 45 does not provide, or does not provide an exclusive, current path to the ground. In this embodiment, the grounding assembly 26 provides the path, or the primary path, for a current to the ground. In one embodiment, shown in Figure 5, the grounding assembly 26 includes a ground wire 27 extending between, and providing electrical communication between, the multi-function line 35 and a conductive pile 32' to which a terminal end 36, 37 is coupled, directly coupled, or fixed. In another embodiment, shown in Figure 6, the grounding assembly 26 includes a ground wire 27 (as before) as well as a ground rod 28. In an exemplary embodiment, the ground rod 28 is disposed adjacent the conductive pile 32' to which a terminal end 36, 37 is coupled, directly coupled, or fixed. In this embodiment, the ground wire 27 extends between, and provides electrical communication between, the multi-function line 35 and the ground rod 28.

The cable hangers 38, such as but not limited to the cable hangers disclosed in U.S. Patent No. 9,722,405, are structured to be coupled, directly coupled, temporarily coupled, or fixed to the multi-function line 35. In an exemplary embodiment, the cable hangers 38 are substantially fixed to the multi-function line 35; thus, the cable hangers 38 do not move along the multi-function line 35. The cable hangers 38 include a number of cable support receptacles. For example, in an exemplary embodiment, there is one cable support receptacle for A/C wires, another cable support receptacle for D/C wires, and another receptacle for a data wire. The receptacles are each spaced from one another.

The grounding system 40 is structured to, and does, provide a path to ground for electricity. That is, the grounding system 40 includes conductive elements, or partially conductive elements, as those terms are defined below. The disclosed and claimed grounding system 40 is, unlike the prior art, incorporated into selected elements of the support assembly 30. That is, in an exemplary embodiment, the piles 32 and the multi-function line 35 are conductive elements. As used herein, a "conductive" element includes "highly conductive" sub-elements and/or "partially conductive" sub-elements. As used

herein, a “highly conductive” (sub-)element is an element that has minimal resistance to electricity and/or wherein electricity can pass through all portions of the element. For example, a copper wire or a construct made substantially from copper is a “highly conductive” element. As used herein, a “partially conductive” (sub-)element is one that
5 conducts electricity, but with some resistance or wherein electricity does not pass through all portions of the element. For example, galvanized steel or a steel wire with copper cladding are examples of a “partially conductive” elements.

Thus, in an exemplary embodiment, the grounding system 40 includes conductive piles 32'. That is, the conductive piles 32' are structured to, and do, conduct electricity.
10 As the conductive piles 32' are disposed in the ground, the conductive piles 32' are in electrical communication with the ground, *i.e.*, the conductive piles 32' are grounded. In one exemplary embodiment, not shown, the conductive piles 32' include a generally non-conductive body, *e.g.*, wood or composite bodies, with a highly conductive element, *e.g.*, a copper wire, or a partially conductive element, *i.e.*, a steel cable, coupled, directly
15 coupled, temporarily coupled, or fixed thereto. In the embodiment shown, the conductive piles 32' include a partially conductive body 42 such as, but not limited to, a galvanized steel C-beam or galvanized steel I-beam.

Further, the multi-function line 35 is conductive, as noted above. Thus, the multi-function line 35 is also part of the grounding system 40 as well as the support assembly
20 30.35. As used herein, a multi-function line 35 includes highly conductive elements and/or partially conductive elements. That is, as part of the disclosed and claimed concept, the multi-function line 35 is structured to conduct electricity when needed but not in the normal course of use. As noted above, one non-limiting example of when a multi-function line 35 is needed to conduct electricity includes an instance when the multi-function line 35, or
25 some element coupled thereto, is struck by lightning or wherein a fault/short occurs in current wire(s) 20. Such an instance is uncontrollable and, as such, is not in the normal course of use.

The multi-function line 35 includes one of a highly conductive body or a partially conductive body 50. That is, in one embodiment, the multi-function line 35 body is a copper
30 wire or a copper cable, *i.e.*, copper wires twisted together or about a copper core. Such a highly multi-function line 35, however, has a lower strength when compared to a steel

multi-function line 35. Thus, in an exemplary embodiment, the multi-function line 35 includes a partially conductive body 50. For example, a partially conductive body 50 includes both copper and steel elements. As shown in Figure 7, in an exemplary embodiment, the partially conductive body 50 is a cable 52 that includes conductive strands 54, (as used herein “strands 54” identifies all conductive strands not otherwise identified by another reference number) such as, but not limited to, copper strands, as well as copper clad steel strands 56. In another embodiment, not shown, the partially conductive body 50 is a cable that includes conductive strands and non-conductive strands. In another embodiment, not shown, the multi-function line 35 is a cable that includes only partially conductive strands such as, but not limited to, copper clad steel strands 56 as described above. Thus, the multi-function line 35 includes strands 54 selected from the group consisting of: copper strands, copper-clad steel strands, galvanized steel strands, a conductive alloy strands, partially conductive, alloy strands, or are a composite of strands. As used herein, a “composite of strands,” or alternately “composite strands,” means that the strands include only copper strands 54 and copper-clad steel strands 56. Further, a multi-function line 35 made from composite strands is identified herein as a “composite multi-function line” 35. Use of composite strands, or use of a composite multi-function line 35, provides both the conductivity and strength needed to solve the problem(s) noted above. In an exemplary embodiment, the composite multi-function line 35 has only seven strands wherein three strands are copper and four strands are copper-clad steel strands. This configuration of a multi-function line 35, also provides both the conductivity and strength needed to solve the problem(s) noted above.

The grounding system 40 also includes a number of conductive mounting assemblies 60. The conductive mounting assemblies 60 are structured to, and do, couple the multi-function line 35 to the conductive piles 32' and are also structured to, and do, provide a path of electrical communication between the multi-function line 35 to the conductive piles 32'. That is, each conductive mounting assembly 60 is structured to be coupled, directly coupled, temporarily coupled, or fixed to the multi-function line 35 and to a conductive pile 32' and to be in electrical communication with both. When the multi-function line 35 is coupled to a conductive pile 32' by a conductive mounting assembly 60, the multi-function line 35 is in electrical communication with the conductive pile 32'.

Thus, any current carried by the multi-function line 35 is coupled to the ground. That is, the grounding system 40 grounds the multi-function line 35 and any element in electrical communication therewith.

5 In an exemplary embodiment, each conductive mounting assembly 60 includes a mounting body 62, a support coupling 64 and a number of multi-function line couplings 66. Each conductive mounting assembly mounting body 62 (hereinafter “mounting body”) is highly conductive or partially conductive. Further, each mounting body 62 is one of a conductive body 70 or a conductive body assembly (not shown). For example, a conductive body assembly includes a non-conductive element, such as a plastic bracket, as
10 well as a conductive element, such as a copper wire. In the embodiment shown, the mounting body conductive body 70 is galvanized steel. That is, the mounting body conductive body 70 is a partially conductive body.

Further, as shown in Figures 8A-8C, in an exemplary embodiment, each mounting body 62 is a simplified shape. As used herein, a “simplified shape” means a body or
15 assembly including generally planar portions and transitional bends or welds between the generally planar portions. As shown, and in an exemplary embodiment, each mounting body 62 is an L-shaped bracket 90. That is, each L-shaped bracket 90 is a unitary body 91 that includes a minor (shorter) planar portion 92 and a major (longer) planar portion 94 with a generally ninety degree transitional bend 96 therebetween. An example of a non-
20 unitary body with a “simplified shape” (not shown) includes, but is not limited to T-shaped bracket wherein two generally planar bars are welded to each other. A mounting body 62 with a simplified shape is inexpensive and solves the problem(s) noted above.

Each conductive mounting assembly support coupling 64 (hereinafter “support coupling” 64) is structured to, and does, couple, directly couple, temporarily couple, or fix
25 each mounting body 62 to an associated conductive pile 32'. When a conductive mounting body 62 is coupled to a conductive pile 32' the two elements are in electrical communication. Thus, each mounting body 62 is grounded via the associated conductive pile 32'. In an exemplary embodiment wherein each mounting body 62 is an L-shaped bracket 90, the minor planar portion 92 is coupled, directly coupled, temporarily coupled, or fixed to the associated conductive pile 32'. That is, the support coupling 64 includes a
30 number of openings 100 in the minor planar portion 92 as well as a coupling assembly such

as, but not limited to a bolt 102 and nut 104. The support coupling 64 also includes openings (not shown) in the associated conductive pile 32' through which the bolt 102 extends. In an exemplary embodiment, the elements of the support coupling 64 are conductive. That is, for example, the bolt 102 and nut 104 are made from highly conductive and/or partially conductive materials. In another embodiment, the minor planar portion 92 is directly coupled or temporarily, directly coupled to the associated conductive pile 32'.

Each conductive mounting assembly multi-function line coupling 66 (hereinafter "multi-function line coupling" 66) defines a conductive path. In an exemplary embodiment, each multi-function line coupling 66 is highly conductive. Further, in an exemplary embodiment, each multi-function line coupling 66 is structured to, and does, couple, directly couple, temporarily couple, or fix the multi-function line 35 to the mounting body 62. Thus, the multi-function line coupling 66 provides electrical communication between the multi-function line 35 and the mounting body 62. As the mounting body 62 is grounded, as described above, the multi-function line 35 is also grounded.

In one exemplary embodiment, each multi-function line coupling 66 engages, *i.e.*, applies a bias or "clamps," the multi-function line 35. In this embodiment, the multi-function line coupling 66 includes one of a clamping assembly 80 (Figures 8A-8C), a split bolt 82 (Figure 9A-9C), a U-bolt 84 (Figure 10B, in ghost), a double bolt and retaining plate assembly 86 (Figures 10A-10C), or a lay-in lug assembly 88 (Figures 11A-11C). As used herein, a "clamping assembly" includes two elements acting in concert, *i.e.*, together, as well as a bias device such as, but not limited to, a spring or a threaded rod. For example, the "two elements acting in concert" include two elements that are pivotally coupled to each other. In this embodiment, the bias device biases the pivotally coupled elements together. As used herein, a "split bolt" includes a threaded rod including a passage and a threaded passage, passage, and/or a nut. As is known, and as shown in Figure 6B, a cable, such as multi-function line 35 is passed through the rod passage and the threaded rod is drawn against the passage by tightening the nut.

In another embodiment, shown in Figure 12, each conductive mounting assembly 60 is structured to support a plurality of multi-function lines 35. Thus, in this embodiment, there are a plurality of multi-function line couplings 66. Each multi-function line coupling

66 is disposed one of a “first effective distance,” a “second effective distance,” or a “third effective distance” from an adjacent multi-function line coupling 66. As used herein, a “first effective distance” means between less than one foot to about one hundred feet apart. As used herein, a “second effective distance” means between one foot and about fifty feet apart. As used herein, a “third effective distance” means between about five feet and about thirty feet apart.

When assembled, the grounding system 40 includes a multi-function line 35 that is coupled, directly coupled, temporarily coupled, or fixed to a multi-function line coupling 66. The multi-function line coupling 66 is coupled, directly coupled, temporarily coupled, or fixed or unitary with the conductive mounting body 62. The conductive mounting body 62 is coupled, directly coupled, temporarily coupled, or fixed to a conductive pile 32' via a conductive support coupling 64. In this configuration, the multi-function line 35 is grounded through the conductive mounting assembly 60 and the conductive pile 32'. Moreover, in one embodiment of such a conductive mounting assembly 60, the multi-function line assembly 34 does not include any grounding splices. In another embodiment of the conductive mounting assembly 60, the multi-function line assembly 34 does not include any medial grounding splices. As used herein, “medial grounding splices” means grounding splices other than at the terminal ends 36, 37 of the multi-function line 35. That is, in a configuration wherein the multi-function line 35 has a grounding splice at only one, or both, of the terminal ends 36, 37, the multi-function line 35 does not include any “medial grounding splices.” This solves the problem(s) noted above.

In an exemplary embodiment, grounding system 40 is structured to be operational with solar electrical equipment. That is, in a solar power generation facility 11, there is a well-known configuration of current wire(s) 20 associated with the solar electrical equipment and which communicate a current in a limited range of amperes. As such, to be “structured to be operational with solar electrical equipment,” as used herein, means to be structured to support the weight of current wire(s) 20 associated with a solar electrical equipment and to be structured to communicate currents associated with solar electrical equipment.

When installed the grounding system 40 operates as follows. In an instance where there is a fault in a high voltage wire 20 supported by the cable hangers 38, an arc forms

between the fault and the multi-function line 35. The current is then communicated to one of a conductive mounting assembly 60, or, to a conductive terminal support 44 and then to the conductive pile 32'. The conductive pile 32' is in direct electrical communication with the ground. Alternatively, if a grounding assembly 26 is installed, the current passes from the multi-function line 35 through the grounding assembly 26 to the ground. It is understood that the current follows the path of least resistance to the ground. Thus, the current is communicated to the ground. As another example, when lightning strikes the solar panels 13, racking or other equipment, or the multi-function line 35, the current is communicated to a conductive pile 32' via the multi-function line 35 and one of a conductive mounting assembly 60 or a conductive terminal support 44, or, the current passes from the multi-function line 35 to a grounding assembly 26.

Thus, the disclosed grounding system 40 provides a path to ground for a current without including a separate messenger wire and conductor and without grounding splices between a conductor and each pile (or without any medial grounding splices). Further, the multi-function line 35 both supports the cable hangers 38 and wires 20 while providing a path to ground. This solves the problems stated above.

While specific embodiments of the invention have been described in detail, it will be appreciated by those skilled in the art that various modifications and alternatives to those details could be developed in light of the overall teachings of the disclosure. Accordingly, the particular arrangements disclosed are meant to be illustrative only and not limiting as to the scope of invention which is to be given the full breadth of the claims appended and any and all equivalents thereof.

What is Claimed is:

1. A grounding system structured to ground a number of cables supported by a support assembly, said support assembly including a plurality of spaced, conductive piles, said grounding system comprising:

a multi-function line assembly;

a number of conductive mounting assemblies, each said conductive mounting assembly structured to be coupled to said multi-function line and to a conductive pile; and

wherein said multi-function line assembly is coupled to, and in electrical communication with, said number of conductive mounting assemblies.

2. The grounding system of Claim 1 wherein:

each said conductive mounting assembly includes a mounting body, a support coupling, and a number of multi-function line couplings; and

each said multi-function line coupling defines a conductive path.

3. The grounding system of Claim 2 wherein each said mounting body is one of a conductive body or a conductive body assembly.

4. The grounding system of Claim 2 wherein:

each said mounting body is a conductive body; and

each said mounting body conductive body is a partially conductive body.

5. The grounding system of Claim 3 wherein each said mounting body has a simplified shape.

6. The grounding system of Claim 2 wherein each said multi-function line coupling is a clamping assembly.

7. The grounding system of Claim 6 wherein each said multi-function line coupling includes one of a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly.

8. The grounding system of Claim 2 wherein:
said number of multi-function line couplings includes a plurality of multi-function line couplings; and
each said multi-function line coupling spaced an effective distance from another multi-function line coupling.

9. The grounding system of Claim 1 wherein said multi-function line assembly does not include any grounding splices.

10. The grounding system of Claim 1 wherein said multi-function line assembly does not include any medial grounding splices.

11. The grounding system of Claim 1 wherein said multi-function line includes one of a highly conductive body or a partially conductive body.

12. The grounding system of Claim 1 wherein said multi-function line includes strands selected from the group consisting of: copper strands, copper-clad steel strands, galvanized strands, conductive alloy strands, partially conductive, alloy strands, or composite strands.

13. The grounding system of Claim 1 wherein said multi-function line assembly includes a conductive terminal support.

14. The grounding system of Claim 12 wherein said multi-function line assembly terminal support includes a conductive thimble-eye.

15. A grounding system comprising multi-function line.

16. The grounding system of Claim 14 wherein said multi-function line is structured to be operational with solar electrical equipment.

17. The grounding system of Claim 14 wherein said multi-function line assembly does not include any grounding splices.

18. The grounding system of Claim 14 wherein said multi-function line assembly does not include any medial grounding splices.

19. The grounding system of Claim 14 wherein said multi-function line includes one of a highly conductive body or a partially conductive body.

ABSTRACT OF THE DISCLOSURE

A grounding system, structured to ground a number of cables supported by a support assembly, includes a multi-function line assembly and a number of conductive mounting assemblies. Each conductive mounting assembly is structured to be coupled to
5 the multi-function line and to a conductive pile.



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Power of Attorney: None

Domestic Applications for which benefit is claimed - None.

A proper domestic benefit claim must be provided in an Application Data Sheet in order to constitute a claim for domestic benefit. See 37 CFR 1.76 and 1.78.

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

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**** SMALL ENTITY ****

Title

GROUNDING SYSTEM

Preliminary Class

439

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.



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
15/725,668	10/05/2017	ALLEN GARRETT SMITH	308329-00021

CONFIRMATION NO. 2706

FORMALITIES LETTER

3705
ECKERT SEAMANS CHERIN & MELLOTT, LLC
600 GRANT STREET
44TH FLOOR
PITTSBURGH, PA 15219



Date Mailed: 10/23/2017

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given TWO MONTHS from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
 - The drawings must be reasonably free from erasures and must be free from alterations, overwriting, interlineations, folds, and copy marks. See Figure(s) all.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

Items Required To Avoid Processing Delays:

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).

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
ALLEN GARRETT SMITH
Gregory Stephen Platt
Timothy Joseph Wedding

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice".
<https://portal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at 1-866-217-9197 or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

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/

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 15/725,668	
APPLICATION AS FILED - PART I							
(Column 1)		(Column 2)		SMALL ENTITY		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	70		N/A	
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	300		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	360		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	19 minus 20 =	*	x 40 =	0.00	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	*	x 210 =	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	
				730			
APPLICATION AS AMENDED - PART II							
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		OTHER THAN SMALL ENTITY
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	RATE(\$)
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	ADDITIONAL FEE(\$)
	Application Size Fee (37 CFR 1.16(s))					OR	
	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	
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		OTHER THAN SMALL ENTITY
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	RATE(\$)
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	ADDITIONAL FEE(\$)
	Application Size Fee (37 CFR 1.16(s))					OR	
	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.							

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

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

Application Number	15/725,668
Filing Date	October 5, 2017
First Named Inventor	Allen Garrett Smith
Title	Grounding System
Art Unit	2833
Examiner Name	
Attorney Docket Number	308329-00021

SIGNATURE of Applicant or Patent Practitioner			
Signature	/David C. Jenkins/	Date (Optional)	2017-10-24
Name	David C. Jenkins	Registration Number	42691
Title (if Applicant is a juristic entity)	Attorney of record		
Applicant Name (if Applicant is a juristic entity)		Cambria County Association for the Blind and Handicapped	
NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.			
☐ *Total of _____ forms are submitted.			

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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

POWER OF ATTORNEY BY APPLICANT

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

Application Number	Filing Date
15/725,668	2017-10-05

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

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

03705

OR

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

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

☒ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

☐ Firm or Individual Name

Address

City

State

Zip

Country

Telephone

Email

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

- ☐ Inventor or Joint Inventor (title not required below)
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
- ☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

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

Signature

Date (Optional)

10-5-17

Name

Allen Garrett Smith, Cambria County Association for the Blind and Handicapped

Title

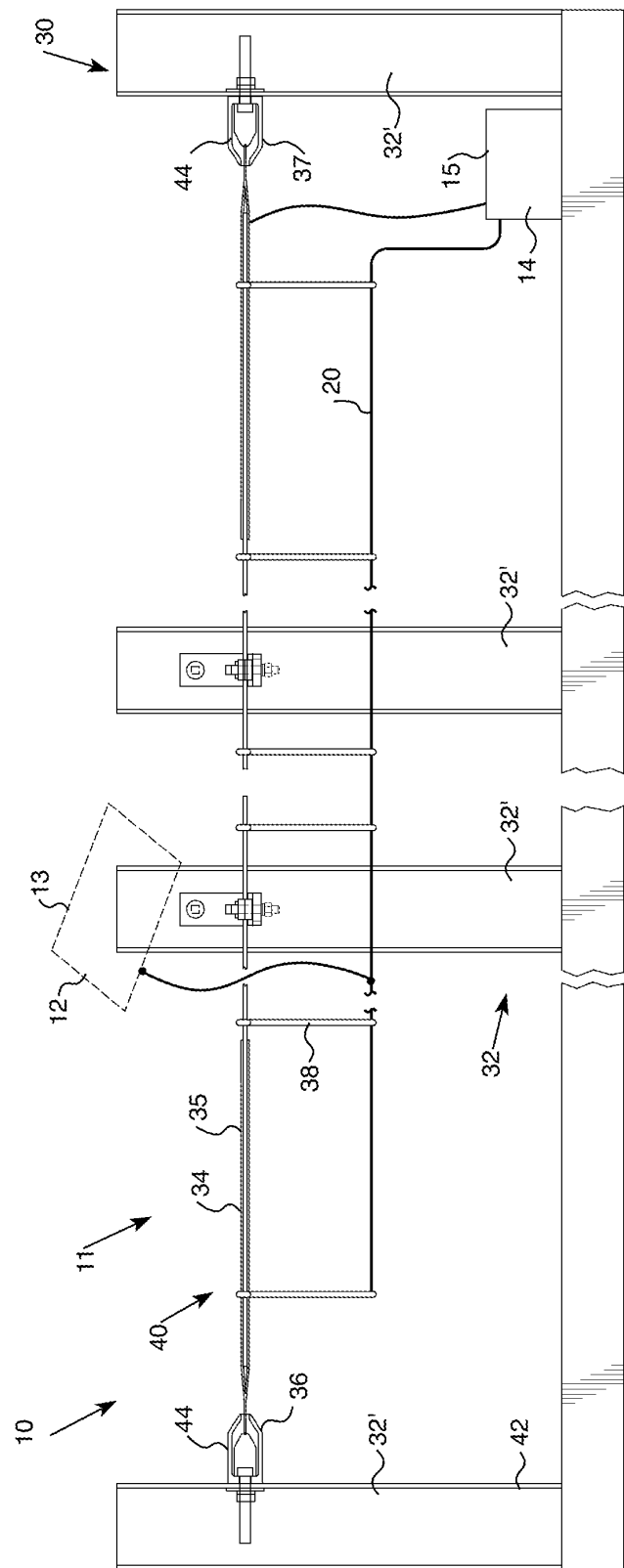
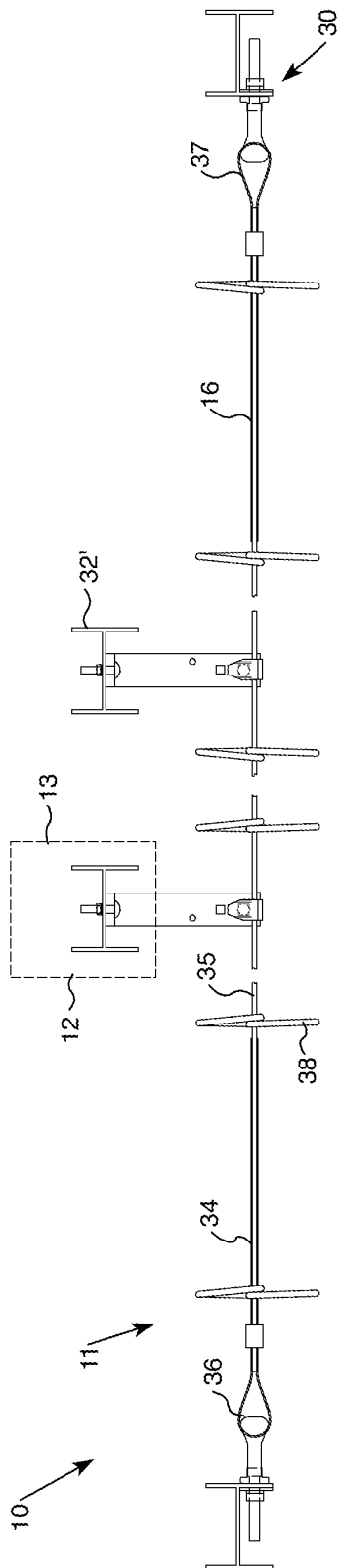
General Manager, Ebensburg Division

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

☐ Total of forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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



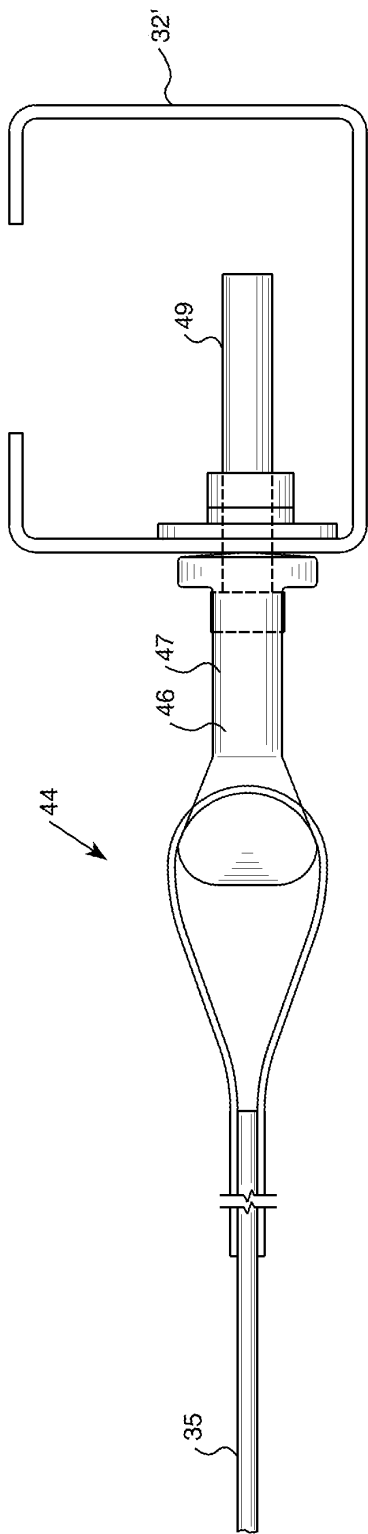


FIG. 3

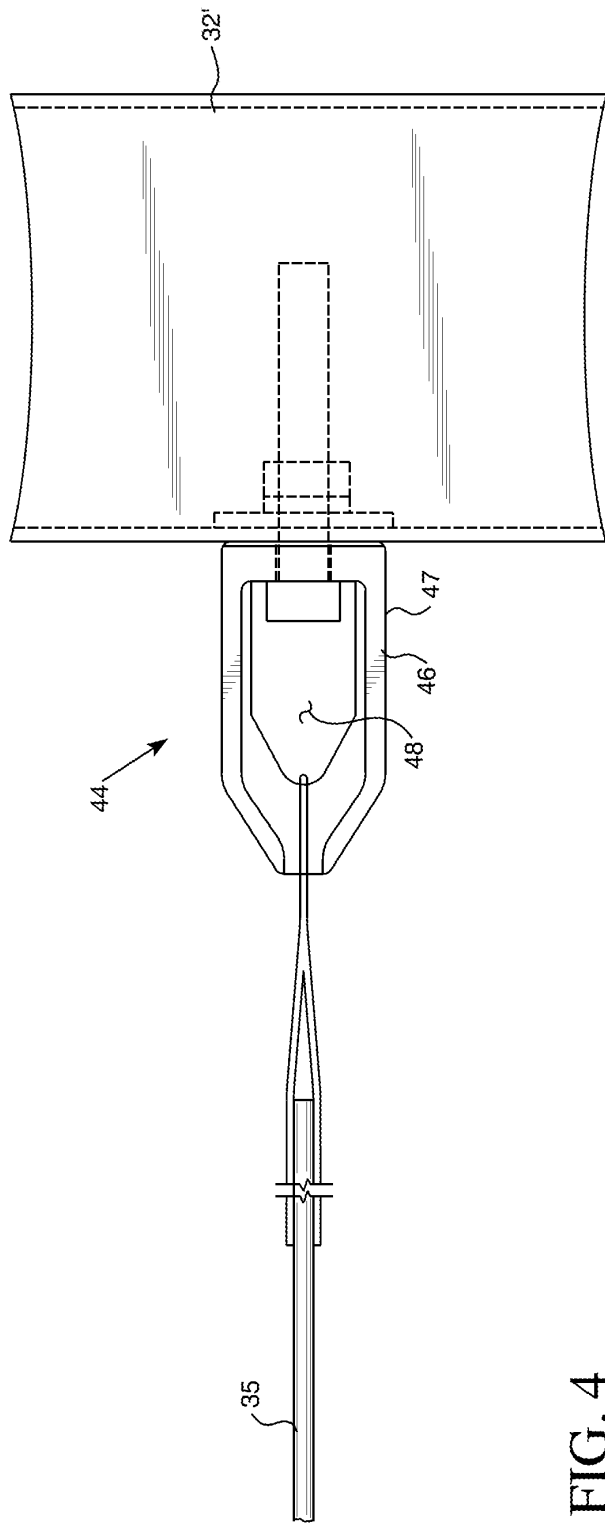


FIG. 4

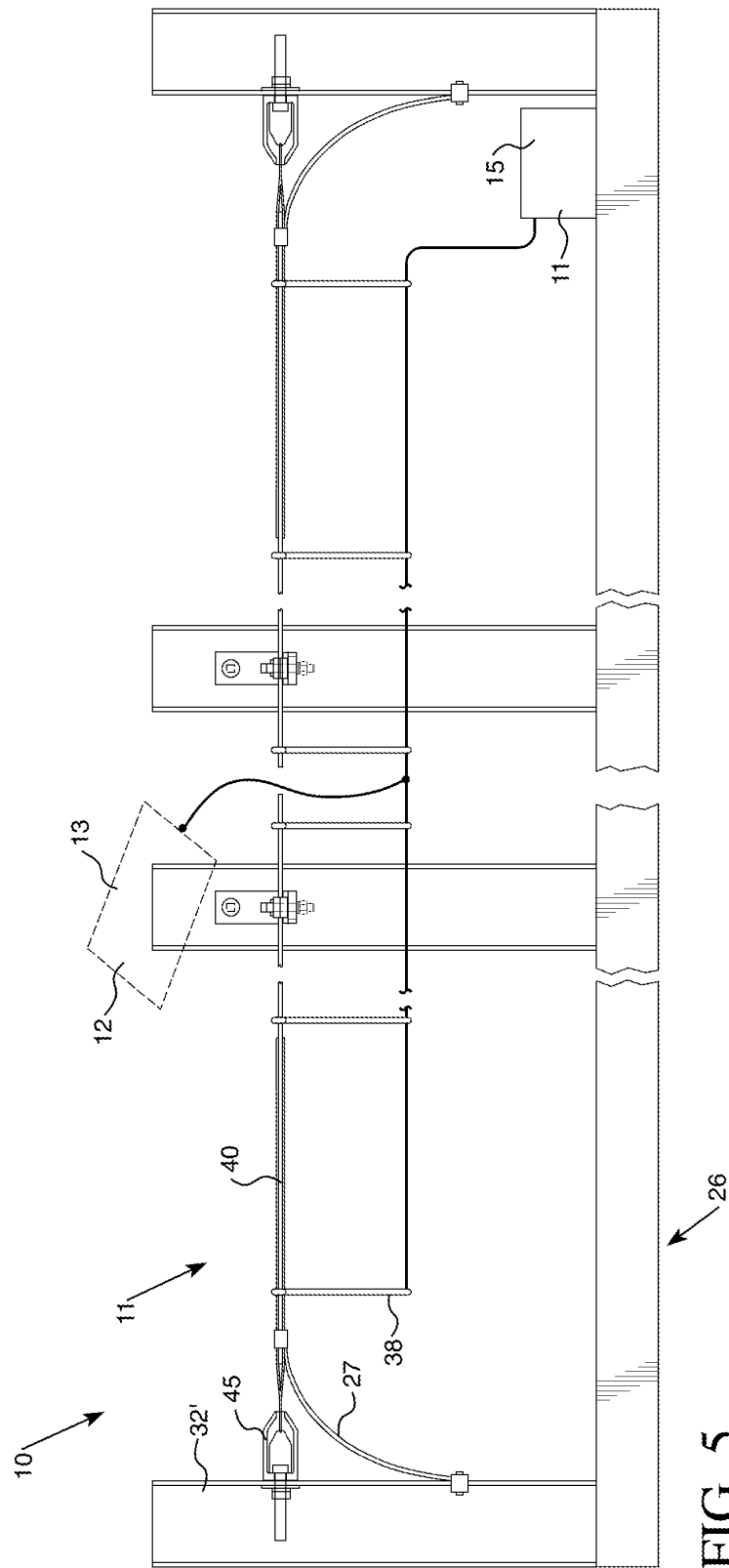


FIG. 5

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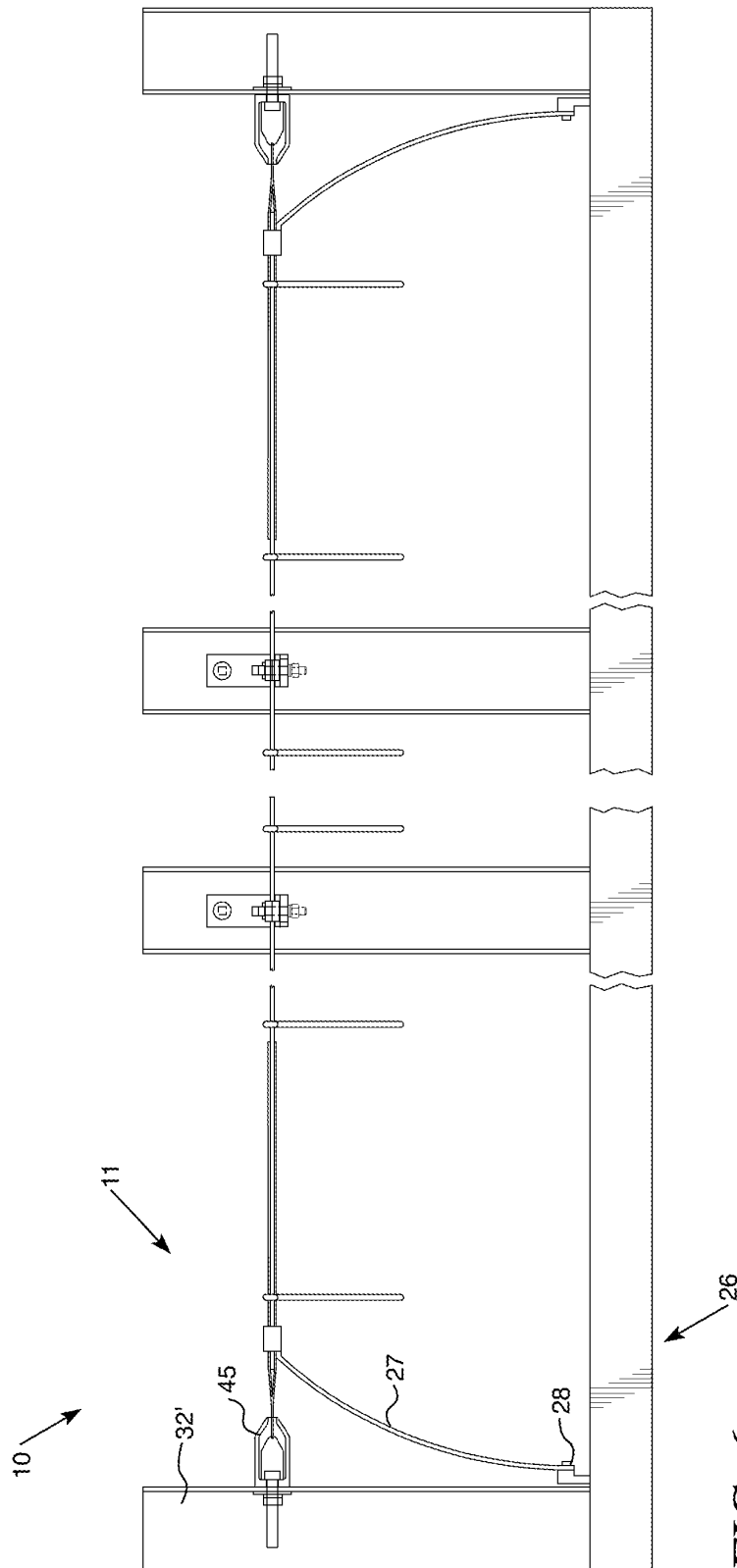


FIG. 6

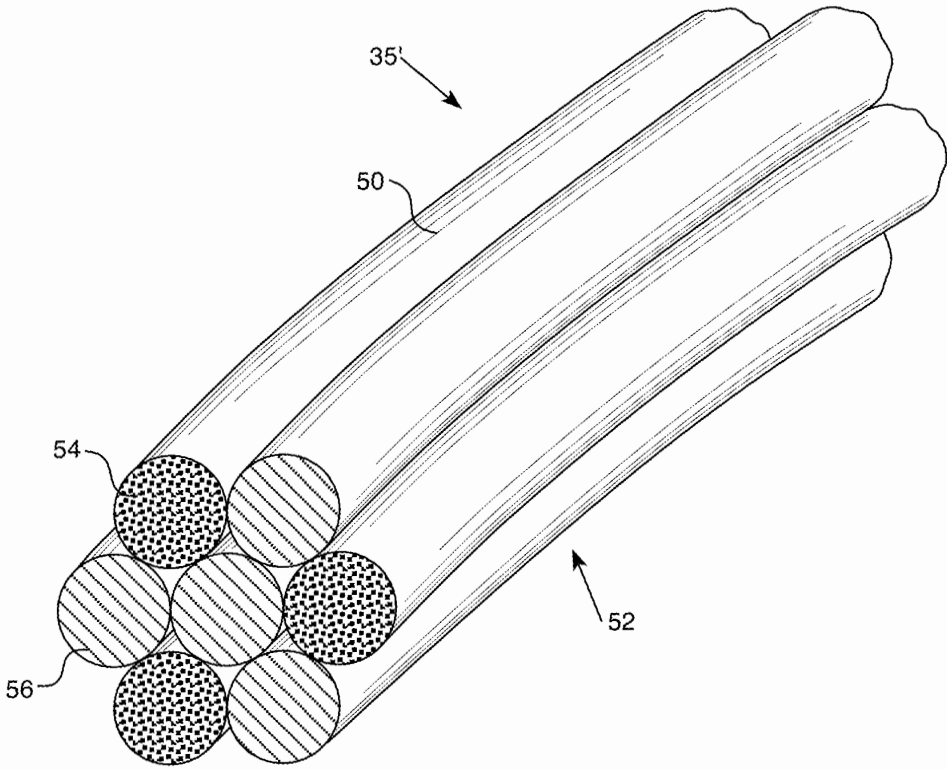


FIG. 7

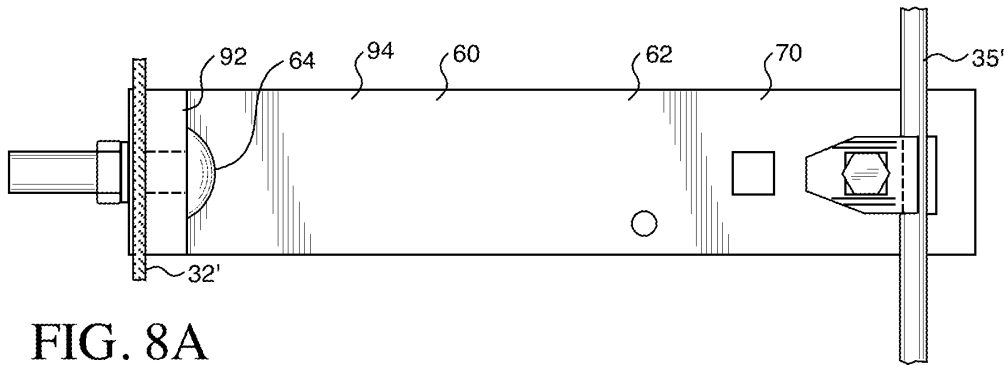


FIG. 8A

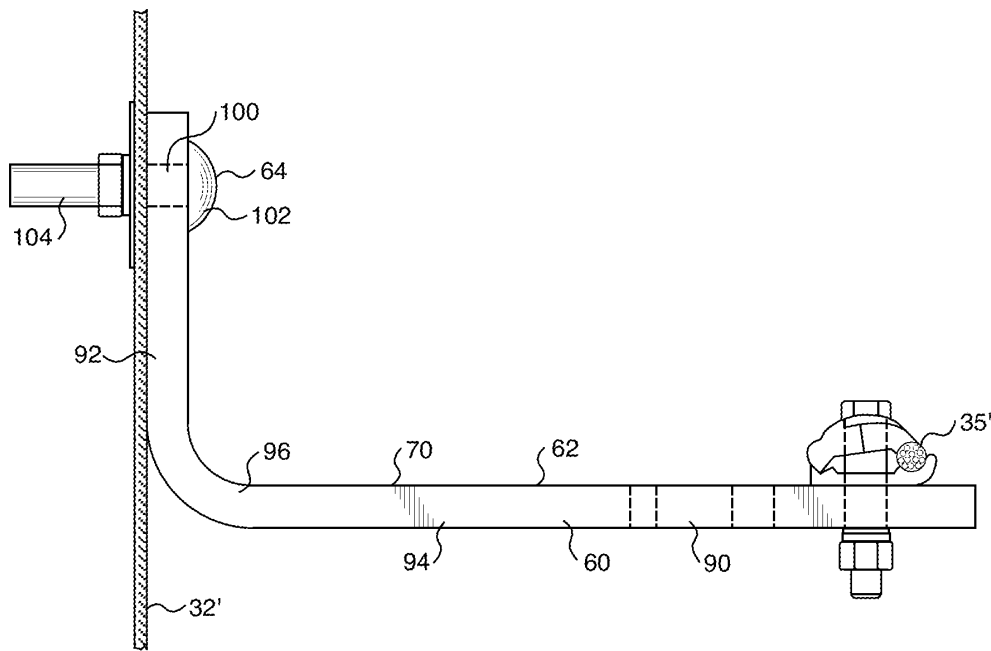


FIG. 8B

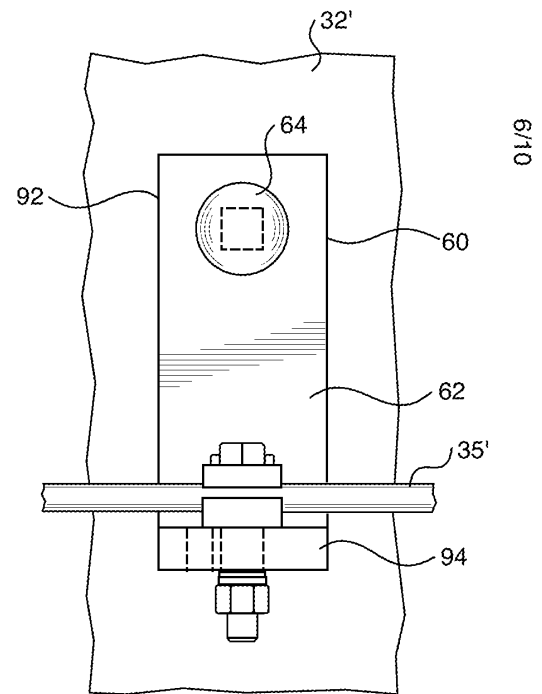


FIG. 8C

Replacement Sheet

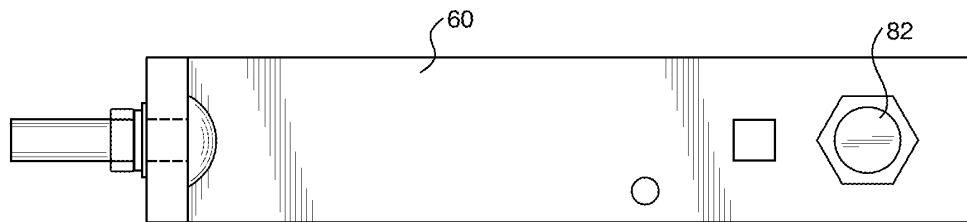


FIG. 9A

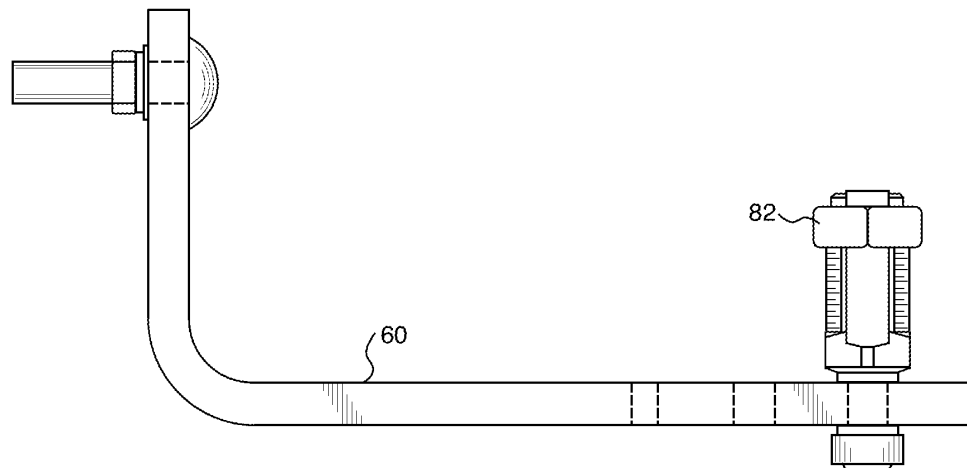


FIG. 9B

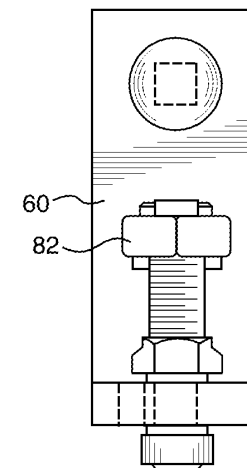


FIG. 9C

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Replacement Sheet

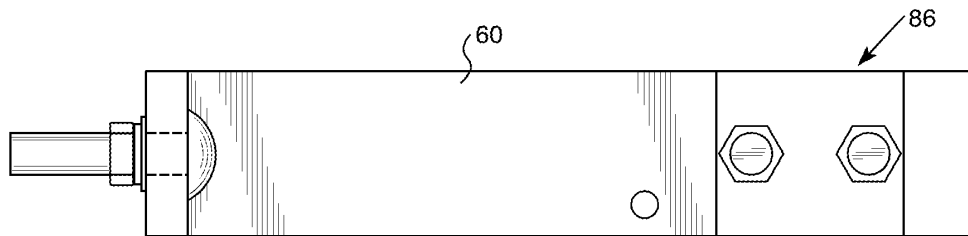


FIG. 10A

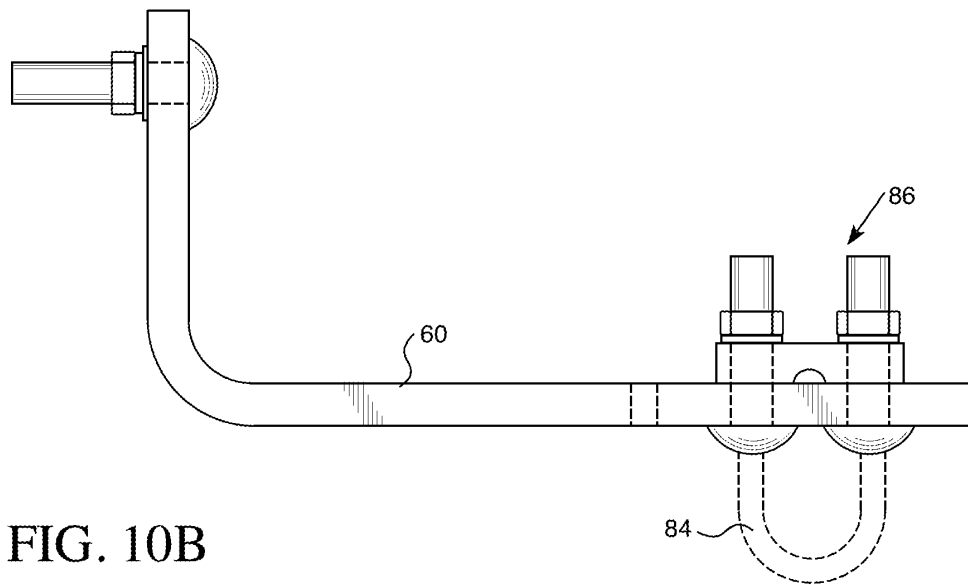


FIG. 10B

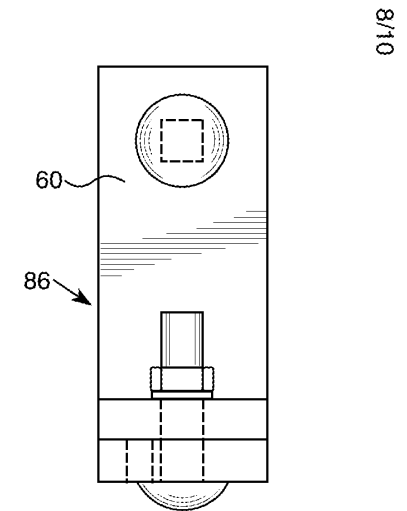
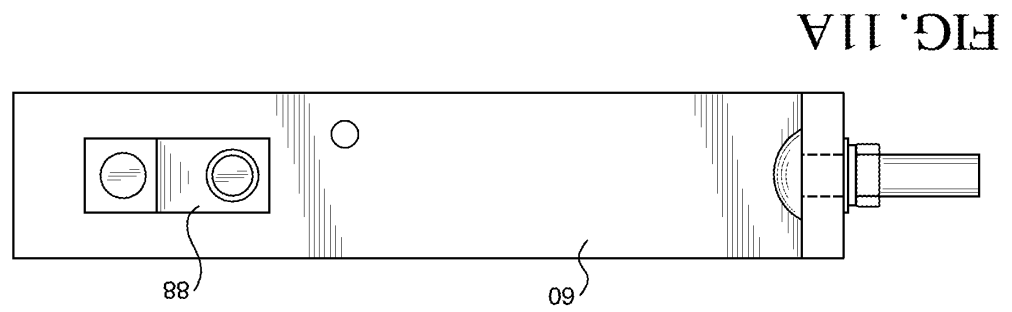
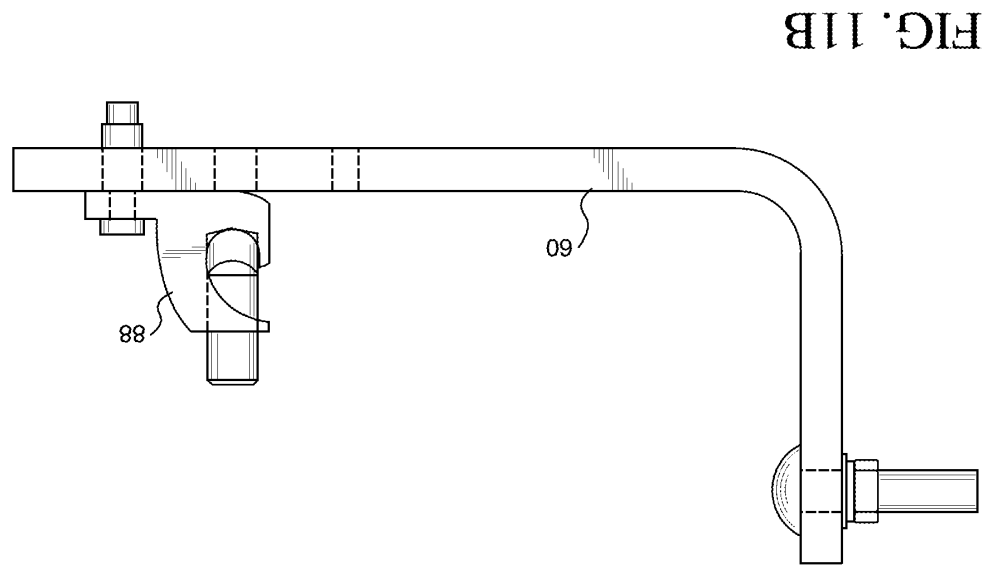
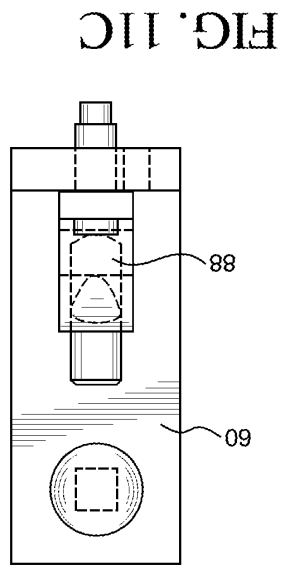


FIG. 10C

8/10

Replacement Sheet

9/10



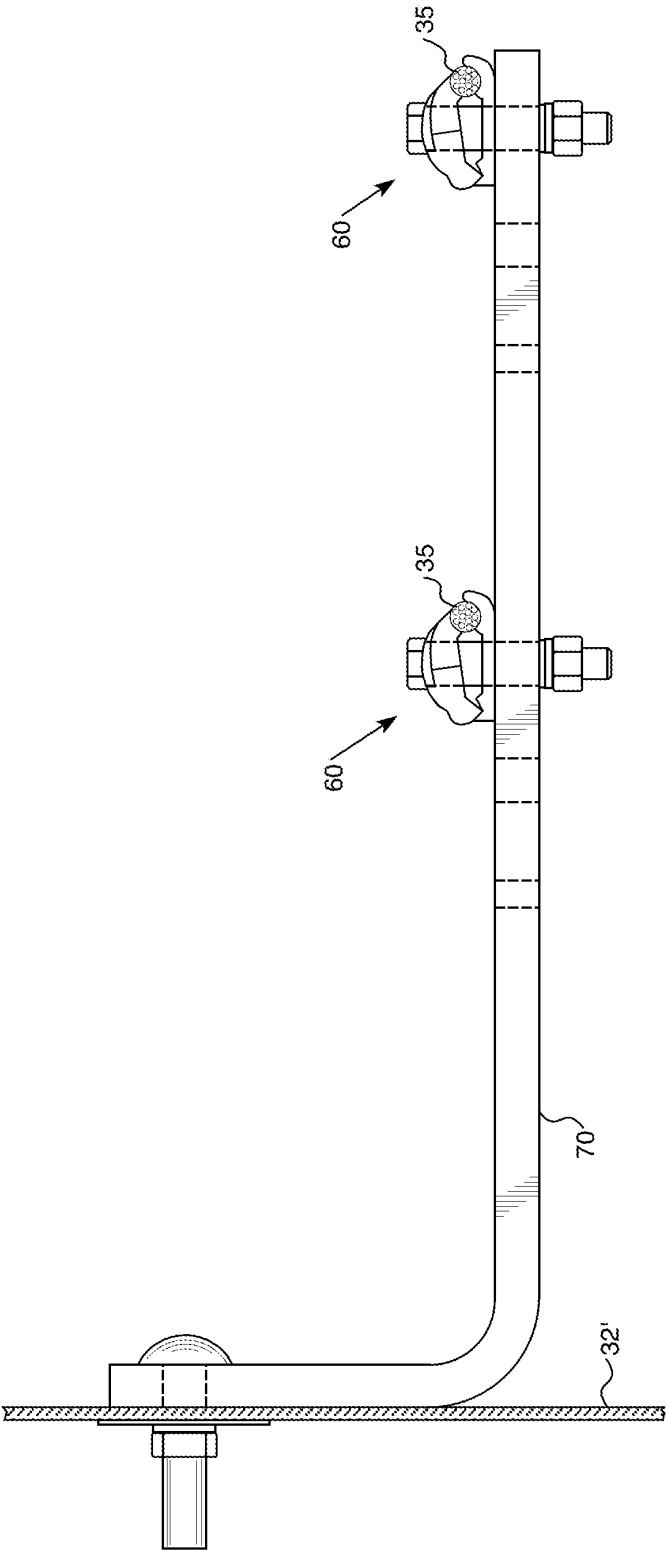


FIG. 12

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit 2833) Confirmation No. 2706
In re Application of:)
ALLEN GARRETT SMITH) **GROUNDING SYSTEM**
Et al.)
Serial No. 15/725,668)
Filed October 5, 2017) Attorney Docket No. 308329-00021

TRANSMITTAL LETTER

MAIL STOP MISSING PARTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

October 24, 2017

Sir:

Filed herewith are the executed DECLARATIONS, POWER OF ATTORNEY and STATEMENT UNDER 37 CFR 3.73(c) for the Patent Application for the captioned case. The late filing fee for oath or declaration for small entity in the amount of \$70 was paid on October 5, 2017, at the time of filing the patent application.

Also filed herewith are TEN sheets (10), of formal patent drawings, Figures 1-12, as required by the Draftsman. Please substitute these sheets for those previously filed in the captioned application.

No fee is believed to be required, however, if such a fee is due, please charge any additional fee or credit any overpayment to Eckert Seamans Cherin & Mellott, LLC Deposit Account No. 02-2556.

Respectfully submitted,

/David C. Jenkins/

David C. Jenkins
Registration No. 42,691
Eckert Seamans Cherin & Mellott, LLC
600 Grant Street, 44th Floor
Pittsburgh, PA 15219
Attorney for Applicants

(412) 566-1253

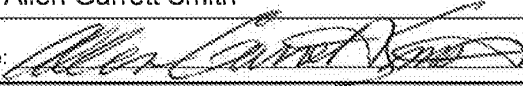
Electronic Acknowledgement Receipt	
EFS ID:	30743656
Application Number:	15725668
International Application Number:	
Confirmation Number:	2706
Title of Invention:	GROUNDING SYSTEM
First Named Inventor/Applicant Name:	ALLEN GARRETT SMITH
Customer Number:	3705
Filer:	David C. Jenkins/JANICE JENE
Filer Authorized By:	David C. Jenkins
Attorney Docket Number:	308329-00021
Receipt Date:	24-OCT-2017
Filing Date:	05-OCT-2017
Time Stamp:	14:27:29
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	Oath or Declaration filed	308329-00021DECLARATIONS.pdf	758584	no	3
			f3c570185505ab7d25b47d0b945b30e787431e37		
Warnings:					

Information:					
2	Assignee showing of ownership per 37 CFR 3.73	308329-00021STATEMENT37CFR373C.pdf	1877778	no	3
			2b2fccaf23104cc5661cd1212ce7dec736e770da		
Warnings:					
Information:					
3	Power of Attorney	308329-00021POA.pdf	1297555	no	2
			7bb3ac995eb0a520427fe57c481c3f9b81c8426d		
Warnings:					
Information:					
4	Drawings-only black and white line drawings	308329-00021REPLACEMENTFIGS.pdf	1423697	no	10
			e181a5b4868b4b9597f2440e527d93c8736bac2		
Warnings:					
Information:					
5	Applicant Response to Pre-Exam Formalities Notice	308329-00021TRANSMITTALLTR.pdf	347339	no	1
			30c84b346bc51f04c9b551b19662cd8ab3a320c1		
Warnings:					
Information:					
Total Files Size (in bytes):			5704953		
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.					

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

Title of Invention	GROUNDING SYSTEM
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>15/725,668</u> filed on <u>October 5, 2017</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>Allen Garrett Smith</u> Date (Optional): <u>10-5-17</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.

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.

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

Title of
Invention

GROUNDING SYSTEM

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 15/725,668

filed on October 5, 2017

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:

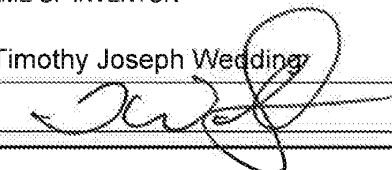
Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization 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: Timothy Joseph Wedding

Date (Optional):

10/05/2017

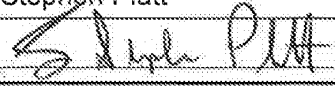
Signature: 

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.**

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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	GROUNDING SYSTEM
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>15/725,668</u> filed on <u>October 5, 2017</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>Gregory Stephen Platt</u> Date (Optional): <u>10/5/17</u> Signature: <u></u> 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.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Cambria County Association for the Blind and Handicapped

Application No./Patent No.: 15725668 Filed/Issue Date: October 5, 2017

Titled: Grounding System

Cambria County for the Blind and Handicapped, a Pennsylvania non-profit 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 043797, Frame 0011, or for which a copy thereof is attached.

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

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

2. From: _____ To: _____

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

[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.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

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

4. From: _____ To: _____

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

5. From: _____ To: _____

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

6. From: _____ To: _____

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

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☒ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

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

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

/David C. Jenkins/

2017-10-24

Signature

Date

David C. Jenkins

42691

Printed or Typed Name

Title or Registration Number

[Page 2 of 2]

Privacy Act Statement

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

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

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



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
15/725,668	10/05/2017	ALLEN GARRETT SMITH	308329-00021

CONFIRMATION NO. 2706

POA ACCEPTANCE LETTER

3705
ECKERT SEAMANS CHERIN & MELLOTT, LLC
600 GRANT STREET
44TH FLOOR
PITTSBURGH, PA 15219



Date Mailed: 10/27/2017

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/24/2017.

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.

/ytdemisse/



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	TOT CLAIMS	IND CLAIMS
15/725,668	10/05/2017	2833	800	308329-00021	19	2

CONFIRMATION NO. 2706
UPDATED FILING RECEIPT

3705
ECKERT SEAMANS CHERIN & MELLOTT, LLC
600 GRANT STREET
44TH FLOOR
PITTSBURGH, PA 15219



CC000000093017799

Date Mailed: 10/27/2017

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)

ALLEN GARRETT SMITH, Johnstown, PA;
Gregory Stephen Platt, Windber, PA;
Timothy Joseph Wedding, Johnstown, PA;

Applicant(s)

Cambria County Association for the Blind and Handicapped, Johnstown, PA;

Assignment For Published Patent Application

Cambria County Association for the Blind and Handicapped, Johnstown, PA

Power of Attorney: The patent practitioners associated with Customer Number 03705

Domestic Applications for which benefit is claimed - None.

A proper domestic benefit claim must be provided in an Application Data Sheet in order to constitute a claim for domestic benefit. See 37 CFR 1.76 and 1.78.

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 10/20/2017

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/725,668**

Projected Publication Date: 04/11/2019

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

GROUNDING SYSTEM

Preliminary Class

439

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						Application or Docket Number 15/725,668					
Substitute for Form PTO-875											
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	70		N/A			
SEARCH FEE (37 CFR 1.16(k), (l), or (m))		N/A		N/A	N/A	300		N/A			
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A		N/A	N/A	360		N/A			
TOTAL CLAIMS (37 CFR 1.16(i))		19	minus 20 =	*	x 40 =	0.00	OR				
INDEPENDENT CLAIMS (37 CFR 1.16(h))		2	minus 3 =	*	x 210 =	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	730		TOTAL			
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))							OR			
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR			
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE			
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))							OR			
	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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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/725,668	10/05/2017	ALLEN GARRETT SMITH	308329-00021	2706
3705 7590 03/08/2018 ECKERT SEAMANS CHERIN & MELLOTT, LLC 600 GRANT STREET 44TH FLOOR PITTSBURGH, PA 15219			EXAMINER NGO, HUNG V	
			ART UNIT 2847	PAPER NUMBER
			NOTIFICATION DATE 03/08/2018	DELIVERY MODE ELECTRONIC

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

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

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

ipmail@eckertseamans.com

Office Action Summary	Application No. 15/725,668	Applicant(s) SMITH ET AL.	
	Examiner HUNG V. NGO	Art Unit 2847	AIA (First Inventor to File) Status Yes

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

Period for Reply

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

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

Status

1) ☐ Responsive to communication(s) filed on _____.
☐ 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 10/24/2017 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a) ☐ All b) ☐ Some** c) ☐ None of the:

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

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

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

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

Attachment(s)

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

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date 10/5/2017.

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

4) ☐ Other: _____.

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

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a) because they fail to show multi-function line coupling 66 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 1, line 6, “multi-function line” lacks antecedent basis.

Claim 4, “each said mounting body is a conductive body; and each said mounting body conductive body is a partially conductive body” is confusing.

Claim 8, lines 2-3 is unclear.

Claim 11, line 1, “multi-function line” lacks antecedent basis.

Claim 12, line 1, “multi-function line” lacks antecedent basis.

Claim 16, line 1, “multi-function line” lacks antecedent basis.

Claim 19, line 1, “multi-function line” lacks antecedent basis.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a)(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

Claim(s) 1-5, 8-11, 13, 15 is/are rejected under 35 U.S.C. 102(a)(2) as being anticipated by Korman et al (US 2012/0024563).

Re claim 1, Korman et al disclose a multi-function line assembly (60, 42, 43); a number of conductive mounting assemblies (36, 44, 40), each said conductive mounting assembly structured to be coupled to said multi-function line assembly (Fig 4) and to a conductive pile (48); and wherein said multi-function line assembly is coupled to, and in electrical communication with, said number of conductive mounting assemblies (Fig 4).

Re claim 2, wherein: each said conductive mounting assembly includes a mounting body (36), a support coupling (44), and a number of multi-function line couplings; and each said multi-function line coupling defines a conductive path (Fig 4).

Re claim 3, wherein each said mounting body is one of a conductive body or a conductive body assembly (Fig 4).

Re claim 4, as best understood, wherein: each said mounting body is a conductive body (metallic)[0035].

Re claim 5, wherein each said mounting body has a simplified shape (Fig 4).

Re claim 8, wherein: said number of multi-function line couplings includes a plurality of multi-function line couplings; and each said multi-function line coupling spaced an effective distance from another multi-function line coupling (Fig 4).

Re claim 9, wherein said multi-function line assembly does not include any grounding splices (Fig 4).

Re claim 10, wherein said multi-function line assembly does not include any medial grounding splices (Fig 4).

Re claim 11, wherein said multi-function line assembly includes one of a highly conductive body or a partially conductive body (copper wire)[0004].

Re claim 13, wherein said multi-function line assembly includes a conductive terminal support (42, 43).

Re claim 15, Korman et al disclose a grounding system comprising multi-function line (60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6, 7 is/are rejected under 35 U.S.C. 103 as being unpatentable over Korman et al (US 2012/0024563) in view of Peabody (US 7,057,103).

The teaching as discussed above does not disclose wherein each said multi-function line coupling is a clamping assembly (re claim 6), wherein each said multi-function line coupling includes one of a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly (re claim 7).

Peabody teaches the use of multi-function line coupling is a clamping assembly (112), wherein each said multi-function line coupling includes one of a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly (Figs 4, 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the line coupling of Korman et al by employing the clam-shell, U-bolt for easily attaching the line assembly to the mounting body.

Claim 12, 14, 16-19 is/are rejected under 35 U.S.C. 103 as being unpatentable over Korman et al (US 2012/0024563) in view of Hanson et al (US 2013/0244505)

wherein said multi-function line assembly made of copper [0004].

Re claim 16, wherein said multi-function line is structured to be operational with solar electrical equipment (PV module)[0019].

Re claim 17, wherein said multi-function line assembly does not include any grounding splices (Fig 4).

Re claim 18, wherein said multi-function line assembly does not include any medial grounding splices (Fig 4).

Re claim 19, wherein said multi-function line assembly includes one of a highly conductive body (copper) [0004] or a partially conductive body.

The teaching as discussed above does not disclose wherein said multi-function line assembly includes strands (re claim 12), wherein said multi-function line assembly terminal support includes a conductive thimble-eye (re claim 14).

Hanson et al teach the use of a multi-function line assembly which includes strands (Fig 8), wherein said multi-function line assembly terminal support includes a conductive thimble-eye (355)[0048](Figs 12, 13). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the line assembly of Korman et al by employing strands and thimble eye for enhancing flexibility.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG V. NGO whose telephone number is (571)272-1979. The examiner can normally be reached on Monday to Friday 9:00-5:00.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an

interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thompson can be reached on (571) 272-2342. 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.

/HUNG V NGO/
Primary Examiner, Art Unit 2847

Notice of References Cited	Application/Control No. 15/725,668		Applicant(s)/Patent Under Reexamination SMITH ET AL.	
	Examiner HUNG V. NGO		Art Unit 2847	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-2012/0024563 A1	02-2012	Korman; Charles Steven	H02S20/00	174/51
*	B	US-7,057,103 B1	06-2006	Peabody; Alan B	H02G7/14	174/40R
*	C	US-2013/0244505 A1	09-2013	HANSON; BRIAN K.	B61B12/00	439/786
	D	US-				
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
 Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Index of Claims</i> 	Application/Control No. 15725668	Applicant(s)/Patent Under Reexamination SMITH ET AL.
	Examiner HUNG V NGO	Art Unit 2847

✓	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	03/05/2018								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
	9	✓								
	10	✓								
	11	✓								
	12	✓								
	13	✓								
	14	✓								
	15	✓								
	16	✓								
	17	✓								
	18	✓								
	19	✓								

Bibliographic Data

Application No: 15725668

Foreign Priority claimed: ☐ Yes ☒ No

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

Verified and Acknowledged:

/HUNG V NGO/

Examiner's Signature

Initials

Title:

GROUNDING SYSTEM

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
10/05/2017	174	2847	308329-00021
RULE			

APPLICANTS

Cambria County Association for the Blind and Handicapped, Johnstown, PA,

INVENTORS

ALLEN GARRETT SMITH, Johnstown, PA, UNITED STATES

Gregory Stephen Platt, Windber, PA, UNITED STATES

Timothy Joseph Wedding, Johnstown, PA, UNITED STATES

CONTINUING DATA

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

10/20/2017

STATE OR COUNTRY

UNITED STATES

ADDRESS

ECKERT SEAMANS CHERIN & MELLOTT, LLC
600 GRANT STREET
44TH FLOOR
PITTSBURGH, PA 15219
UNITED STATES

FILING FEE RECEIVED

\$800

Receipt date: 10/05/2017

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)

Approved for use through 07/31/2016. OMB 0651-0031

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

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15/725,668 - GAU: 2847	
	Filing Date			
	First Named Inventor	Allen Garrett Smith		
	Art Unit			
	Examiner Name			
	Attorney Docket Number		308329-00021	

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
/H.V.N/	1	9722405		2017-08-01	Cambria County Association for the Blind...	

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

U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

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FOREIGN PATENT DOCUMENTS								
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²ⁱ	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							☐

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NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵

Receipt date: 10/05/2017

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		15/725,668 - GAU: 2847	
	Filing Date			
	First Named Inventor	Allen Garrett Smith		
	Art Unit			
	Examiner Name			
	Attorney Docket Number		308329-00021	

	1		☐
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If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/HUNG V NGO/	Date Considered	03/05/2018
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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

Receipt date: 10/05/2017

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15/725,668 - GAU: 2847
	Filing Date	
	First Named Inventor	Allen Garrett Smith
	Art Unit	
	Examiner Name	
	Attorney Docket Number	308329-00021

CERTIFICATION STATEMENT

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

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

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

☐ See attached certification statement.

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

☒ A certification statement is not submitted herewith.

SIGNATURE

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

Signature	/David C. Jenkins/	Date (YYYY-MM-DD)	2017-10-05
Name/Print	David C. Jenkins	Registration Number	42691

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

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

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

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit 2847	) Confirmation No. 2706
	)
Examiner: Hung V. Ngo	)
	)
In re Application of:	)
	)
ALLEN GARRETT SMITH	) GROUNDING SYSTEM
et al.	)
	)
Serial No. 15/725,668	)
	)
Filed October 5, 2017	) Attorney Docket No. 308329-00021

RESPONSE AND AMENDMENT

March 22, 2018

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

Sir:

This is in response the Office Action, dated March 8, 2018, the time for response being before June 8, 2018.

No fee is believed to be required, however, if such a fee is due, please charge any additional fee or credit any overpayment to Eckert Seamans Cherin & Mellott, LLC Deposit Account No. 02-2556.

Amendments to the Claims begin on page 2 of this paper.

Amendments to the Drawings begin in page 5 of this paper.

Remarks begin on page 6 of this paper.

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A grounding system structured to ground a number of cables supported by a support assembly, said support assembly including a plurality of spaced, conductive piles, said grounding system comprising:

a multi-function line assembly including a multi-function line;

a number of conductive mounting assemblies, each said conductive mounting assembly structured to be coupled to said multi-function line and to a conductive pile; and

wherein said multi-function line assembly is coupled to, and in electrical communication with, said number of conductive mounting assemblies.

2. (Original) The grounding system of Claim 1 wherein:

each said conductive mounting assembly includes a mounting body, a support coupling, and a number of multi-function line couplings; and

each said multi-function line coupling defines a conductive path.

3. (Original) The grounding system of Claim 2 wherein each said mounting body is one of a conductive body or a conductive body assembly.

4. (Original) The grounding system of Claim 2 wherein:

each said mounting body is a conductive body; and

each said mounting body conductive body is a partially conductive body.

5. (Original) The grounding system of Claim 3 wherein each said mounting body has a simplified shape.

6. (Original) The grounding system of Claim 2 wherein each said multi-function line coupling is a clamping assembly.

7. (Original) The grounding system of Claim 6 wherein each said multi-function line coupling includes one of a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly.

8. (Currently Amended) The grounding system of Claim 2 wherein:
said number of multi-function line couplings includes a plurality of multi-function line couplings; and

each said multi-function line coupling spaced one of a first effective distance, a second effective distance, or a third effective distance ~~an effective distance~~ from another multi-function line coupling.

9. (Original) The grounding system of Claim 1 wherein said multi-function line assembly does not include any grounding splices.

10. (Original) The grounding system of Claim 1 wherein said multi-function line assembly does not include any medial grounding splices.

11. (Original) The grounding system of Claim 1 wherein said multi-function line includes one of a highly conductive body or a partially conductive body.

12. (Original) The grounding system of Claim 1 wherein said multi-function line includes strands selected from the group consisting of: copper strands, copper-clad steel strands, galvanized strands, conductive alloy strands, partially conductive, alloy strands, or composite strands.

13. (Original) The grounding system of Claim 1 wherein said multi-function line assembly includes a conductive terminal support.

14. (Original) The grounding system of Claim 12 wherein said multi-function line assembly terminal support includes a conductive thimble-eye.

15. (Currently Amended) A grounding system comprising a multi-function line.

16. (Original) The grounding system of Claim 14 wherein said multi-function line is structured to be operational with solar electrical equipment.

17. (Original) The grounding system of Claim 14 wherein said multi-function line assembly does not include any grounding splices.

18. (Original) The grounding system of Claim 14 wherein said multi-function line assembly does not include any medial grounding splices.

19. (Original) The grounding system of Claim 14 wherein said multi-function line includes one of a highly conductive body or a partially conductive body.

20. (New) A mounting assembly for a grounding system structured to ground a number of cables supported by a support assembly, said support assembly including a plurality of spaced, conductive piles, said grounding system including a multi-function line assembly with a multi-function line, said mounting assembly comprising:

a mounting body, a support coupling, and a number of multi-function line couplings;

each said multi-function line couplings structured to be coupled to said multi-function line;

each said support coupling structured to be coupled to a conductive pile; and

wherein, when said multi-function line assembly is coupled to, and in electrical communication with said multi-function line couplings, each said multi-function line coupling defines a conductive path.

OBJECTION TO THE DRAWINGS

The drawings are objected to under 37 CFR 1.83(a) because they fail to show multi-function line coupling 66 as described in the specification. A replacement sheet for Figures 8A-8C is attached and includes reference number 66. As such, the objection to the drawings should be withdrawn.

REMARKS

The Invention

The disclosed and claimed concept relates to a grounding system for a suspended cable assembly and, more particularly, to a grounding system that includes conductive elements whereby grounding cables do not need to be spliced into a conductor wire disposed adjacent a messenger wire, and, to a system wherein a multi-function line provides support and a current path.

Status of the Claims

Claims 1-19 are pending in this application. Claim 20 is new.

Claims 1, 4, 8, 11, 12, 16 and 19 are objected to.

Claims 1-5, 8-11, 13 and 15 are rejected under 35 U.S.C. § 102(a)(2) as being anticipated by *Korman et al.* (U.S. Patent Publication No. 2012/0024563).

Claims 6 and 7 are rejected under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Peabody* (U.S. Patent No. 7,057,103).

Claims 12, 14 and 16-19 are rejected under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Hanson et al.* (U.S. Patent Publication No. 2013/0244505).

Claims 1, 4, 8, 11, 12, 16 and 19; Objected to

Claims 1, 8, 11, 12, 16 and 19 are objected to as lacking antecedent basis for the term “multi-function line.” Claim 1 has been amended to provide an antecedent basis for the term “multi-function line.”

Claim 4 is objected to for the recitation, “each said mounting body is a conductive body; and each said mounting body conductive body is a partially conductive body.” Applicants note the specification identifies bodies as either “non-conductive” or “conductive.” “Conductive” elements are further identified as either “highly conductive” or “partially conductive.” Thus, Claim 4 initially recites that the mounting body is a “conductive body.” That is, between “non-conductive” or “conductive” bodies, the mounting body is a “conductive body.” The second clause of Claim 4 further identifies the “conductive body” as a “partially conductive” body (as

opposed to a “highly conductive” body). One of skill in the art, upon reading page 12, lines 8-17, would understand these distinctions.

Based on the comments above, the objections to Claims 1, 4, 8, 11, 12, 16 and 19 should be withdrawn.

Claims 1-5, 8-11, 13 and 15; Rejected under 35 U.S.C. § 102(a)(2)

Claims 1-5, 8-11, 13 and 15 are rejected under 35 U.S.C. § 102(a)(2) as being anticipated by *Korman et al.* (U.S. Patent Publication No. 2012/0024563). *Korman* discloses a photovoltaic (PV) ac-module grounding system that includes a plurality of PV dc-voltage modules. Each PV dc-voltage module is integrated with a corresponding dc-ac micro-inverter to provide a corresponding PV ac-voltage module. Each PV ac-voltage module includes an ac-voltage plug and play connector that includes a dc ground conductor. Each dc-ac micro-inverter is internally electrically connected to its own chassis ground or metal enclosure which, in turn, is electrically connected to a corresponding dc ground conductor. A dc ground path is carried through an ac power bus from ac-voltage module to ac-voltage module through the plug and play connectors via the dc ground conductors.

MPEP §2111 IV states:

An Appellant is entitled to be his or her own lexicographer and may rebut the presumption that claim terms are to be given their ordinary and customary meaning by clearly setting forth a definition of the term that is different from its ordinary and customary meaning(s). See *In re Paulsen*, 30 F.3d 1475, 1480, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994) (inventor may define specific terms used to describe invention, but must do so “with reasonable clarity, deliberateness, and precision” and, if done, must “‘set out his uncommon definition in some manner within the patent disclosure’ so as to give one of ordinary skill in the art notice of the change” in meaning) (quoting *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387-88, 21 USPQ2d 1383, 1386 (Fed. Cir. 1992)). Where an explicit definition is provided by the Appellant for a term, that definition will control interpretation of the term as it is used in the claim. *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999) (meaning of words used in a claim is not construed in a “lexicographic vacuum, but in the context of the specification and drawings”). Any special meaning assigned to a term “must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention.” *Multiform Desiccants Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1477, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998). See also *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999)....

The present specification provides “as used herein, a ‘multi-function line’ means a tension member that supports current wires and/or cable hangers, and, which is conductive. That is, a messenger wire is not a ‘multi-function line.’ Similarly, a conductor that does not support other constructs is not a ‘multi-function line.’” Claim 1 recites a “a multi-function line assembly” and, as amended, a “multi-function line.”

Korman fails to disclose a “multi-function line.” That is, the supported elements are the “c-voltage modules 38” which are supported by the “frame structure 46.” The conductive elements include “a dc-voltage ground connection 60,” “ac-voltage pins 80,” and “a neutral conductor pin 82.” The frame structure 46 is not a “tension member” and, as such, the frame structure cannot be a “multi-function line.” The conductive elements do not support current wires and/or cable hangers. Thus, the conductive elements are not a “multi-function line.”

Anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention. *RCA Corp. v. Applied Digital Data Sys., Inc.*, 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). In other words, there must be no difference between the claimed invention and the referenced disclosure, as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Research Found. v. Genentech Inc.*, 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991). As stated in MPEP §2131:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference....
The **identical** invention must be shown in as complete detail as is contained in the ... claim.

Verdigaal Brothers v. Union Oil Company of California, 814 F.2d 628, 631 (Fed. Cir. 1987) (emphasis added) and *Richardson v. Suzuki Motor Company*, 868 F.2d 1226, 1236, (Fed. Cir. 1989).

As *Korman* fails to disclose a “multi-function line,” *Korman* cannot disclose a grounding system that is identical to the grounding system recited in Claim 1. Accordingly, the rejection of Claim 1 should be withdrawn.

Claim 2 depends from Claim 1 and recites “a number of multi-function line couplings.” Applicants note that the Examiner does not identify any specific element in *Korman* as a “multi-function line coupling.” That is, the Examiner identifies *Korman* elements 36 and 44 as “a

mounting body” and a “support coupling,” respectively, but does not identify a “multi-function line coupling.” The Examiner has interpreted the term “multi-function line coupling” in an overly broad manner.

The Court of Appeals for the Federal Circuit has recently addressed the issue of claim term interpretation in, *In re: Smith International, Inc.*, Fed. Cir. 2016-2303, Decided: September 26, 2017. In *Smith*, U.S. Patent No. 6,732,817 was invalidated during an *ex parte* reexamination. The claims related to a hydraulic drilling tool. The claim term at issue was “body.” That is, the claims recited, *inter alia*, “An expandable downhole tool for use in a drilling assembly positioned within a wellbore having an original diameter borehole and an enlarged diameter borehole, comprising: a body” The claims recited that other elements, such as, but not limited to a “mandrel,” interacted with the “body.” These claims were rejected in view of a reference that disclosed a drilling assembly with what the Examiner identified as a “body,” as well as other elements such as a “mandrel” and “cam sleeves.” In rejecting the claims, the Examiner (and the Appeal Board) found that the term “body” should be interpreted broadly and included elements such as the cam sleeves. That is, the Board stated that the term “‘body’ is a generic term such as ‘member’ or ‘element’ that by itself provides no structural specificity.” Board Decision, 2016 Pat. App. LEXIS 3764, at *4. Further, “The Board affirmed the examiner’s interpretation of the term ‘body as a broad term that may encompass other components such as ‘mandrel’ and ‘cam sleeve,’ reasoning that only the term ‘body’ is recited in the claims without further limiting features and that the specification neither defines the term ‘body’ nor prohibits the examiner’s broad reading of it.” *Ibid* at 9.

On appeal, the rejections were reversed. The United States Court of Appeals for the Federal Circuit found that it was improper for the Examiner to interpret the term “body” in such a broad manner. That is, contrary to the Examiner and the Board who asserted that the term “body” could be interpreted as, essentially, anything, the Federal Circuit stated:

The Board reasoned that although “the specification describes the body as a discrete element separate from other elements,” the specification does not “define[] the term ‘body’” or “preclude the Examiner’s interpretation.” *Id.* (emphases in original). The Board also rejected Smith’s argument that the person of ordinary skill in the art would understand the term “body” as a distinct element from other components, reasoning that Smith “has not shown that the parts identified in the prior art as bodies are so similar as to create a specific identity of what a body is.”

....

We conclude that the Board’s construction of “body” was unreasonably broad. Even when giving claim terms their broadest reasonable interpretation, the Board cannot construe the claims “so broadly that its constructions are unreasonable under general claim construction principles.” “[T]he protocol of giving claims their broadest reasonable interpretation . . . **does not include giving claims a legally incorrect interpretation**” “**divorced from the specification and the record evidence.**”

It is true that some of the claims at issue recite a broad term “body” without further elaboration on what the term “body” encompasses. J.A. 15, 17 (claims 28 and 43). However, the remainder of the specification does not use the term as a generic body. There is no dispute that the ’817 patent specification consistently describes and refers to the body as a component distinct from others, such as the mandrel, piston, and drive ring.

The correct inquiry in giving a claim term its broadest reasonable interpretation in light of the specification is not whether the specification proscribes or precludes some broad reading of the claim term adopted by the examiner. And it is not simply an interpretation that is not inconsistent with the specification. **It is an interpretation that corresponds with what and how the inventor describes his invention in the specification, i.e., an interpretation that is “consistent with the specification.”**

Id. at 10-13, internal citations omitted, emphasis added.

That is, the court held that broad terms, such as “body,” cannot be interpreted in a manner that is inconsistent with the specification’s description of the “body.” Such a construction of a claim term is not reading the specification into the claims, but rather is interpreting the claim terms in view of the specification.

The present specification does not define the term “multi-function line coupling.” The term, however, consists of a noun adjunct (a noun used as an adjective) that modifies a noun. That is, the term “multi-function line” modifies the term “coupling.” It is understood that in this format, the noun adjunct identifies the type of coupling. For example, in the term “electrical coupling,” the term “electrical” modifies the term “coupling” and identifies the type of coupling. Thus, a “multi-function line coupling” is a coupling for a “multi-function line.” That is, as stated in the present specification, “each multi-function line coupling 66 is structured to, and does, couple, directly couple, temporarily couple, or fix the multi-function line 35 to the mounting body 62.” Page 15, lines 10-12.

As noted above, the term “multi-function line” is a defined term. Moreover, as noted above, *Korman* does not disclose a “multi-function line.” As such, *Korman* cannot disclose a “multi-function line coupling.” That is, under *Smith*, it is improper to identify a random member as a “body” when the term “body” has a meaning in the specification. Similarly, it is improper to identify any coupling as a “multi-function line coupling” when that term has a meaning in the present specification. As *Korman* does not disclose a “multi-function line coupling” as that term is used in the present specification, *Korman* cannot disclose a grounding system that is identical to the grounding system recited in Claim 2. Accordingly, the rejection of Claim 2 should be withdrawn.

Claims 3-5 rely on their dependency for patentability.

For the reasons stated above with respect to Claim 2, *Korman* does not disclose a plurality of multi-function line couplings. Moreover, Claim 8 has been amended to recite that the multi-function line couplings are spaced by “one of a first effective distance, a second effective distance, or a third effective distance.” Each of the “first effective distance,” “second effective distance,” and “third effective distance” are defined terms. *Korman* does not disclose a plurality of multi-function line couplings spaced by distances according to the defined terms. As *Korman* does not disclose a “multi-function line coupling” as that term is used in the present specification and/or the defined spacing, *Korman* cannot disclose a grounding system that is identical to the grounding system recited in Claim 8. Accordingly, the rejection of Claim 8 should be withdrawn.

Claims 9-11 rely on their dependency for patentability.

Claim 13 recites “wherein said multi-function line assembly includes a conductive terminal support.” The term “conductive terminal support” is a defined term. The specification provides, “As used herein, a ‘conductive terminal support’ 44 is structured to couple a multi-function line 35 to a support, draw the multi-function line 35 taut, and provide a current path between the multi-function line 35 and the support.” Page 10, lines 17-20. The Examiner asserts that *Korman* elements 42 and 43 are a “conductive terminal support.” As shown in Figures 9 and 10, *Korman* elements 42 and 43 are, essentially, the ends of an extension cord, *i.e.*, a plug coupling and a socket coupling. These couplings are not “structured to couple a multi-function line 35 to a support, draw the multi-function line 35 taut, and provide a current path between the multi-function line 35 and the support.”

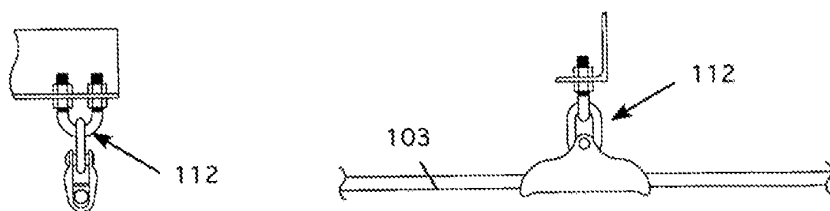
As *Korman* does not disclose a “conductive terminal support” as that term is defined in the present specification, *Korman* cannot disclose a grounding system that is identical to the grounding system recited in Claim 13. Accordingly, the rejection of Claim 13 should be withdrawn.

The argument with respect to Claim 1 is also applicable to Claim 15.

Based on the comments above, the rejection of Claims 1-5, 8-11, 13 and 15 under 35 U.S.C. § 102(a)(2) should be withdrawn.

Claims 6 and 7; Rejected under 35 U.S.C. § 103

Claims 6 and 7 are rejected under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Peabody* (U.S. Patent No. 7,057,103). *Korman* is discussed above. *Peabody* discloses a device for reducing a shock load having a longitudinal direction along a power line coupled through an insulator to a crossarm of a transmission tower, comprising: a rotary damper coupled between the insulator and the crossarm for rotating by the insulator in the longitudinal direction in response to the shock load, the damper having an axle to which the insulator is rotatably coupled; and, a torsion bar coupled at a first end to the axle and at a second end to the crossarm for resisting rotation of the insulator, whereby at least a portion of the shock load is absorbed. The Examiner focuses on Figures 4 and 5 which disclose a “shield wire suspension assembly” or “suspension clamp 112” shown below.



Claim 6 recites, “wherein each said multi-function line coupling is a clamping assembly.” The term “clamping assembly” is a defined term. That is, the specification provides, “[a]s used herein, a ‘clamping assembly’ includes two elements acting in concert, i.e., together, as well as a bias device such as, but not limited to, a spring or a threaded rod.” Applicants note that the “shield wire suspension assembly” includes a cradle that supports a cable. The cradle has a generally U-shaped cross-section. There is no indication that the cradle is compressed so as to

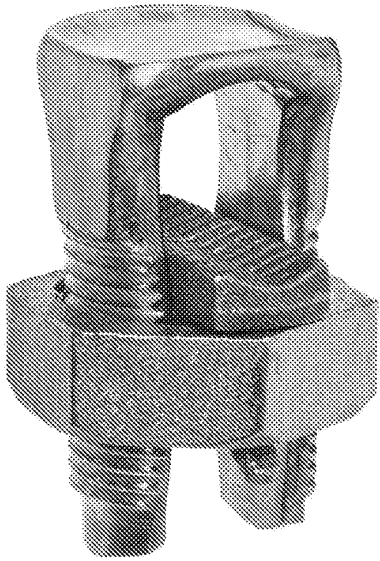
provide bias against the cable. For example it is noted that the distal ends of the U-shaped cradle are not coupled to the chain link by a threaded rod. Accordingly, there is no indication that the shield wire suspension assembly is a “clamping assembly” as that term is defined in the present specification.

As none of the cited art discloses a “clamping assembly” as that term is defined in the present specification, no combination of these references can teach or suggest the grounding system recited in Claim 6.

Claim 7 recites each said multi-function line coupling includes one of a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly. The terms “clam-shell,” “split bolt,” “U-bolt,” and “lay-in lug assembly” are not defined in the present application. These types of couplings, however, are well known. The shield wire suspension assembly disclosed in *Peabody* is not any of a “clam-shell,” “split bolt,” “U-bolt,” or “lay-in lug assembly.”

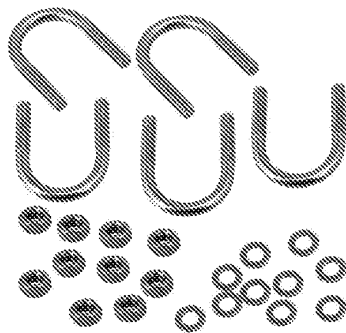
That is, a “clam-shell” includes two elements coupled at a pivot, *i.e.* like a clam. See Google Dictionary which provides, “a thing with hinged parts that open and shut in a manner resembling the parts of a clamshell.” *Id.* at <https://www.google.com/search?q=define%3Aclam-shell&oq=define%3Aclam-shell&aqs=chrome..69i57j69i58.6750j0j8&sourceid=chrome&ie=UTF-8>. The shield wire suspension assembly disclosed in *Peabody* does not include two elements coupled by a hinge.

A “split bolt” is a bolt having a longitudinal channel cut in the shaft. For example, a search of Amazon.com discloses many split bolts including the Morris Products 90324 Split Bolt Connector, shown below, and which is found at https://smile.amazon.com/Morris-Products-90324-Connector-Conductors/dp/B01CF33IHQ/ref=sr_1_7?ie=UTF8&qid=1521661144&sr=8-7&keywords=split+bolt.



Peabody does not disclose a “split bolt.”

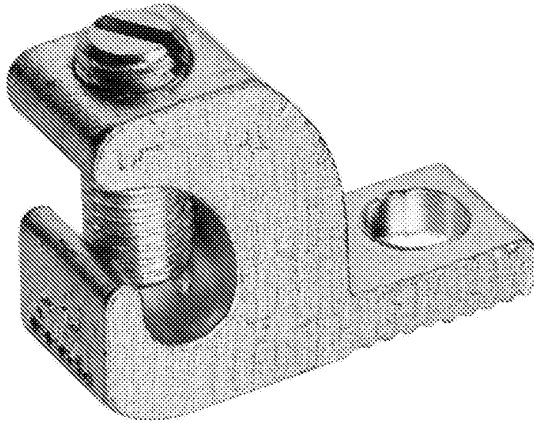
A “U-bolt” is a U-shaped rod with two threaded ends. “U-bolts” are easily located on Amazon.com such as the U-bolts shown below which are found at https://smile.amazon.com/Stainless-Steel-Bolts-Screws-Pack/dp/B010PZS5H4/ref=sr_1_14?s=industrial&ie=UTF8&qid=1521661323&sr=1-14&keywords=U-bolt.



Peabody does not disclose a “U-bolt.”

Finally, a “lay-in lug” includes a base defining a C-shaped portion that defines a threaded opening and a channel for a cable. While less well known, lay-in lugs are also common and can be found on Amazon.com. *See e.g.*, the Thomas & Betts BG LL414 LAY IN LUG shown below and found at <https://smile.amazon.com/Thomas-Betts-LL414-LAY->

Pack/dp/B008KM5AFA/ref=sr_1_4?s=industrial&ie=UTF8&qid=1521661431&sr=1-4&keywords=lay-in+lug&dpID=51LsrzXyYLL&preST=_SX342_QL70_&dpSrc=srch.



Moreover, each of the couplings as described above are shown in the figures of the present application.

As none of the cited art discloses a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly as those terms are used in the present specification, no combination of these references can teach or suggest the grounding system recited in Claim 7.

In view of the comments above, the rejections of Claims 6 and 7 under 35 U.S.C. § 103 should be withdrawn.

Claims 12, 14 and 16-19; Rejected under 35 U.S.C. § 103

Claims 12, 14 and 16-19 are rejected under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Hanson et al.* (U.S. Patent Publication No. 2013/0244505). *Korman* is discussed above. *Hanson* discloses a compression terminal comprising an electrical terminal member, the electrical terminal member configured to receive a stranded wire having a protective outer jacket surrounding a strand bundle, a fastener member including a first inner bore having a first diameter and a second inner bore having a second diameter, the second diameter being less than the first diameter, wherein an internally tapered wall separates the first inner bore from the second inner bore, wherein, when the fastener member is axially slidably compressed from a first position to a second position, the fastener

member is configured to compress a portion of the electrical terminal member against the stranded wire.

With respect, the rejection of Claims 12, 14 and 16-19 is unclear. The initial paragraph is a sentence fragment reading, “wherein said multi-function line assembly made of copper [0004].” This sentence fragment is not tied to any specific claim. Applicants understand that this sentence fragment is related to Claim 12 and the subsequent discussion of *Hanson*. That is, the Examiner notes that *Korman* does not disclose “strands.” The Examiner further states that *Korman* and *Hanson* would be combined to “enhancing flexibility.” Applicants respectfully disagree.

It is well known that a cable, *i.e.* a bundle of strands/wires, is less flexible than a single strand/wire. That is, no known material becomes more flexible when the amount of the material is increased. For example, a wire with a 0.1 mm diameter is more flexible than a wire made from the same material but with a 0.2 mm diameter. Similarly, twisting strands/wires into a cable increases their collective stiffness. Thus, the reason for the proposed combination of *Korman* and *Hanson* is not valid. That is if the single *Korman* wire was combined with other strands and formed into a cable as in *Hanson*, the resulting construct would be less flexible relative to the single wire. Accordingly, the rejection of Claim 12 should be withdrawn.

Claims 14 and 16 rely upon their dependency for patentability.

Claim 17 recites that the “multi-function line assembly does not include any grounding splices.” The term “grounding splice” is not specifically defined, but the use thereof is discussed in detail. That is, the specification notes that, in the prior art, a messenger wire was disposed adjacent a “grounding conductor.” In that configuration, the messenger wire supported other elements and the grounding conductor was coupled to a “grounding splice” to provide a current path to ground. Thus, a “grounding splice” is a separate path to ground from a support line. As *Korman* fails to disclose a “multi-function line assembly” or any other support line, *Korman* cannot disclose the lack of a grounding splice therefrom. This argument also applies to Claim 18.

Claim 19 relies upon its dependency for patentability.

In view of the comments above, the rejections of Claims 12, 14 and 16-19 under 35 U.S.C. § 103 should be withdrawn.

CONCLUSION

In view of the remarks above, Applicants respectfully submit that the application is in proper form for issuance of a Notice of Allowance and such action is requested at an early date.

Respectfully submitted,

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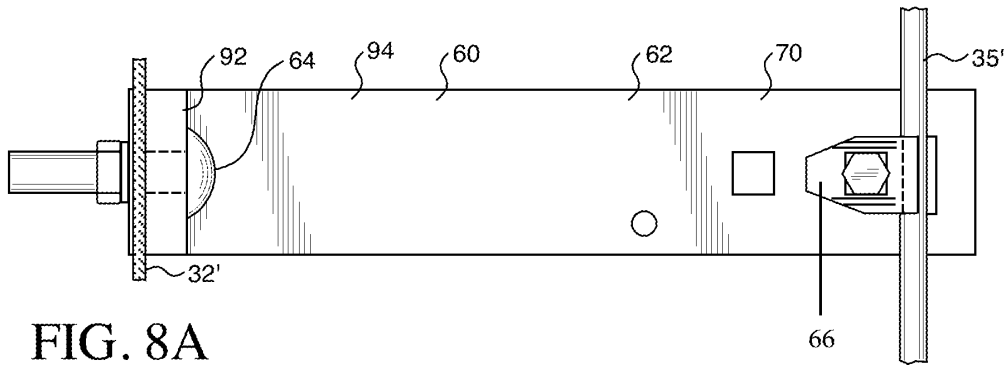


FIG. 8A

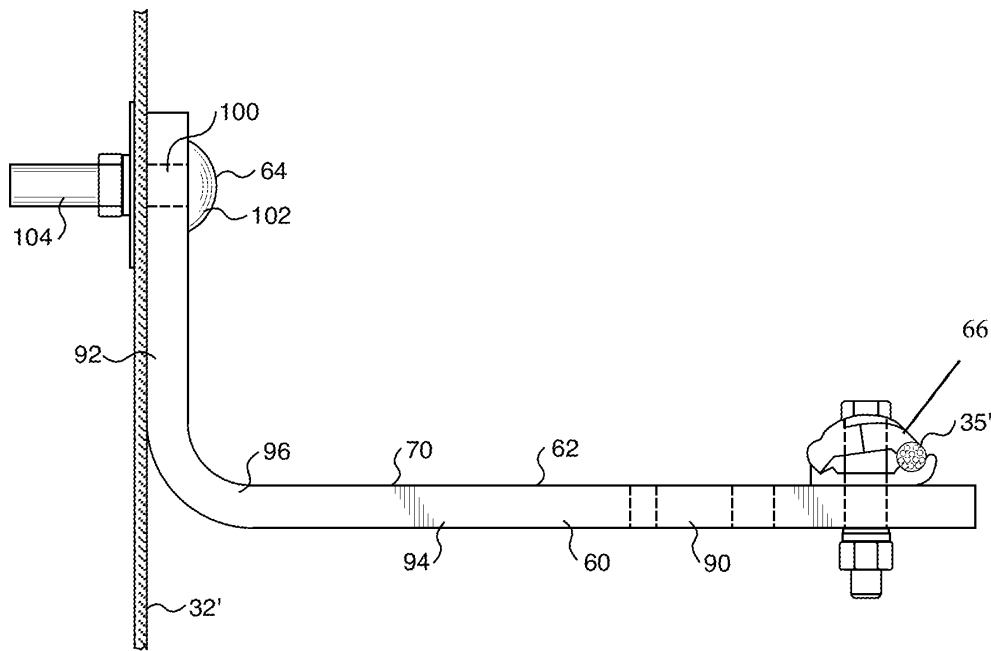


FIG. 8B

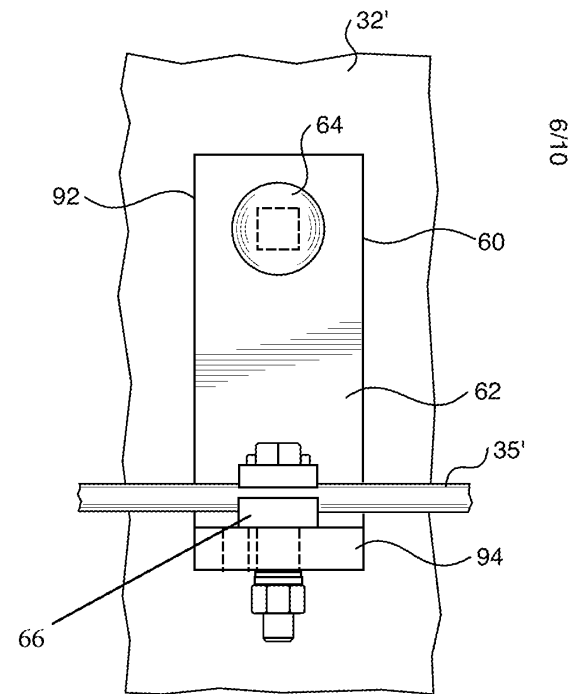


FIG. 8C

Replacement Sheet

Electronic Acknowledgement Receipt

EFS ID:	32128457
Application Number:	15725668
International Application Number:	
Confirmation Number:	2706
Title of Invention:	GROUNDING SYSTEM
First Named Inventor/Applicant Name:	ALLEN GARRETT SMITH
Customer Number:	3705
Filer:	David C. Jenkins/JANICE JENE
Filer Authorized By:	David C. Jenkins
Attorney Docket Number:	308329-00021
Receipt Date:	22-MAR-2018
Filing Date:	05-OCT-2017
Time Stamp:	14:19:45
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		308329-00021AMENDMENT.pdf	10757274	yes	17
			34d17553c4dec3b2e73de5688cb240e487d3c120		

Multipart Description/PDF files in .zip description					
Document Description			Start	End	
Amendment/Req. Reconsideration-After Non-Final Reject			1	1	
Claims			2	4	
Drawings-only black and white line drawings			5	5	
Applicant Arguments/Remarks Made in an Amendment			6	17	

Warnings:

Information:

2	Drawings-only black and white line drawings	308329-00021REPLACEMENTFIGS8A-8C.pdf	220770	no	1
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Warnings:

Information:

Total Files Size (in bytes):	10978044
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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.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 15/725,668		Filing Date 10/05/2017		☐ To be Mailed	
ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO									
APPLICATION AS FILED - PART I									
FOR		(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE (\$)		FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))		N/A	N/A	N/A					
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))		N/A	N/A	N/A					
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))		N/A	N/A	N/A					
TOTAL CLAIMS (37 CFR 1.16(j))		minus 20 = *		x \$40 =					
INDEPENDENT CLAIMS (37 CFR 1.16(h))		minus 3 = *		x \$210 =					
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))		If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).							
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))									
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL					
APPLICATION AS AMENDED - PART II									
AMENDMENT	03/22/2018	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(j))	* 20	Minus	** 20	= 0	x \$50 =		0	
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	x \$230 =		0	
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE		0	
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(j))	*	Minus	**	=	x \$ 0 =			
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$ 0 =			
	☐ Application Size Fee (37 CFR 1.16(s))								
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))								
						TOTAL ADD'L FEE			
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.						LIE			
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						Marquita D Jones			
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".									
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.									

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

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



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/725,668	10/05/2017	ALLEN GARRETT SMITH	308329-00021	2706
3705 7590 05/17/2018 ECKERT SEAMANS CHERIN & MELLOTT LLC U.S. Steel Tower 600 Grant Street, 44th Floor Pittsburgh, PA 15219			EXAMINER NGO, HUNG V	
			ART UNIT 2847	PAPER NUMBER
			NOTIFICATION DATE 05/17/2018	DELIVERY MODE ELECTRONIC

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

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

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

ipmail@eckertseamans.com

Office Action Summary	Application No. 15/725,668	Applicant(s) SMITH ET AL.	
	Examiner HUNG V. NGO	Art Unit 2847	AIA (First Inventor to File) Status Yes

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

Period for Reply

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

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

Status

1) ☒ Responsive to communication(s) filed on 3/22/2018.
☐ 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) 1-20 is/are pending in the application.
5a) Of the above claim(s) 20 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 3/22/2018 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)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date _____.

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

4) ☐ Other: _____.

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

DETAILED ACTION

Election/Restrictions

Newly submitted claim 20 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

Inventions of group I, claims 1-29 and group II, claim 20 are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the grounding system does not require each said multi-function line couplings structure to be coupled to said multi-function line. The subcombination has separate utility such as the mounting assembly can be use with other system.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 20 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Objections

Claim 8, lines 2-3, “said number of multi-function line couplings includes a plurality of multi-function line couplings” is unclear.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a)(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

Claim(s) 1-5, 8-11, 13, 15 is/are rejected under 35 U.S.C. 102(a)(2) as being anticipated by Korman et al (US 2012/0024563).

Re claim 1, Korman et al disclose a multi-function line assembly (60, 42, 43) including a multi-function line (60); a number of conductive mounting assemblies (36, 44, 40), each said conductive mounting assembly structured to be coupled to said multi-function line assembly (Fig 4) and to a conductive pile (48); and wherein said multi-function line assembly is coupled to, and in electrical communication with, said number of conductive mounting assemblies (Fig 4).

Re claim 2, wherein: each said conductive mounting assembly includes a mounting body (36), a support coupling (44), and a number of multi-function line couplings; and each said multi-function line coupling defines a conductive path (Fig 4).

Re claim 3, wherein each said mounting body is one of a conductive body or a conductive body assembly (Fig 4).

Re claim 4, as best understood, wherein: each said mounting body is a conductive body (metallic)[0035].

Re claim 5, wherein each said mounting body has a simplified shape (Fig 4).

Re claim 8, wherein: said number of multi-function line couplings includes a plurality of multi-function line couplings; and each said multi-function line coupling spaced an effective distance from another multi-function line coupling (Fig 4).

Re claim 9, wherein said multi-function line assembly does not include any grounding splices (Fig 4).

Re claim 10, wherein said multi-function line assembly does not include any medial grounding splices (Fig 4).

Re claim 11, wherein said multi-function line assembly includes one of a highly conductive body or a partially conductive body (copper wire)[0004].

Re claim 13, wherein said multi-function line assembly includes a conductive terminal support (62, 64).

Re claim 15, Korman et al disclose a grounding system comprising a multi-function line (60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6, 7 is/are rejected under 35 U.S.C. 103 as being unpatentable over Korman et al (US 2012/0024563) in view of Peabody (US 7,057,103).

The teaching as discussed above does not disclose wherein each said multifunction line coupling is a clamping assembly (re claim 6), wherein each said multifunction line coupling includes one of a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly (re claim 7).

Peabody teaches the use of multi-function line coupling is a clamping assembly (112), wherein each said multi-function line coupling includes one of a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly (Figs 4, 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the line coupling of Korman et al by employing the clam-shell, U-bolt for easily attaching the line assembly to the mounting body.

Claim 12, 14, 16-19 is/are rejected under 35 U.S.C. 103 as being unpatentable over Korman et al (US 2012/0024563) in view of Hanson et al (US 2013/0244505) wherein said multi-function line assembly made of copper [0004],

Re claim 16, wherein said multi-function line is structured to be operational with solar electrical equipment (PV module)[0019].

Re claim 17, wherein said multi-function line assembly does not include any grounding splices (Fig 4).

Re claim 18, wherein said multi-function line assembly does not include any medial grounding splices (Fig 4).

Re claim 19, wherein said multi-function line assembly includes one of a highly conductive body (copper) [0004] or a partially conductive body.

The teaching as discussed above does not disclose wherein said multi-function line assembly includes strands (re claim 12), wherein said multi-function line assembly terminal support includes a conductive thimble-eye (re claim 14).

Hanson et al teach the use of a multi-function line assembly which includes strands (Fig 8), wherein said multi-function line assembly terminal support includes a conductive thimble-eye (355)[0048](Figs 12, 13). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the line assembly of Korman et al by employing strands and thimble eye for enhancing flexibility.

Response to Arguments

Applicant's arguments filed 3/22/2018 have been fully considered but they are not persuasive. Applicant argues (1) that the specification provides definition for the term a multi-function line means a tension member and Korman fails to disclose a multi-function line, (2) that Korman does not disclose a "conductive terminal support" as defined in the present specification.

With respect to (1), the weight of a line 60 (mass + gravity) creates weight force which is pulling down on the line between connectors 42, 43 and this forms a tension line. Therefore the line of Korman is equivalent to a multi-function line, (also, See US 2014/0237774, [0024]). It is noted that the features upon which applicant relies (i.e., that supports current wires and/or cable hanger and which is conductive) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

With respect to (2), multi-function line assembly of Korman includes a conductive terminal support (62, 64)

Conclusion

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

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG V. NGO whose telephone number is (571)272-1979. The examiner can normally be reached on Monday to Friday 9:00-5:00.

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

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thompson can be reached on (571) 272-2342. 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.

/HUNG V NGO/

Primary Examiner, Art Unit 2847

Notice of References Cited	Application/Control No. 15/725,668		Applicant(s)/Patent Under Reexamination SMITH ET AL.	
	Examiner HUNG V. NGO		Art Unit 2847	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-2014/0237774 A1	08-2014	Kline; Joseph	F16G11/046	24/129R
	B	US-				
	C	US-				
	D	US-				
	E	US-				
	F	US-				
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

<i>Index of Claims</i> 	Application/Control No. 15725668	Applicant(s)/Patent Under Reexamination SMITH ET AL.
	Examiner HUNG V NGO	Art Unit 2847

✓	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	03/05/2018	05/11/2018						
	1	✓	✓						
	2	✓	✓						
	3	✓	✓						
	4	✓	✓						
	5	✓	✓						
	6	✓	✓						
	7	✓	✓						
	8	✓	✓						
	9	✓	✓						
	10	✓	✓						
	11	✓	✓						
	12	✓	✓						
	13	✓	✓						
	14	✓	✓						
	15	✓	✓						
	16	✓	✓						
	17	✓	✓						
	18	✓	✓						
	19	✓	✓						
	20		N						

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit 2847	) Confirmation No. 2706
	)
Examiner: Hung V. Ngo	)
	)
In re Application of:	)
	)
ALLEN GARRETT SMITH	) GROUNDING SYSTEM
et al.	)
	)
Serial No. 15/725,668	)
	)
Filed October 5, 2017	) Attorney Docket No. 308329-00021

RESPONSE AND AMENDMENT

May 31, 2018

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

Sir:

This is in response the final Office Action, dated May 17, 2018, the time for early response being before July 17, 2018.

No fee is believed to be required, however, if such a fee is due, please charge any additional fee or credit any overpayment to Eckert Seamans Cherin & Mellott, LLC Deposit Account No. 02-2556.

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 5 of this paper.

AMENDMENTS TO THE CLAIMS

1. (Previously presented) A grounding system structured to ground a number of cables supported by a support assembly, said support assembly including a plurality of spaced, conductive piles, said grounding system comprising:

a multi-function line assembly including a multi-function line;

a number of conductive mounting assemblies, each said conductive mounting assembly structured to be coupled to said multi-function line and to a conductive pile; and

wherein said multi-function line assembly is coupled to, and in electrical communication with, said number of conductive mounting assemblies.

2. (Original) The grounding system of Claim 1 wherein:

each said conductive mounting assembly includes a mounting body, a support coupling, and a number of multi-function line couplings; and

each said multi-function line coupling defines a conductive path.

3. (Original) The grounding system of Claim 2 wherein each said mounting body is one of a conductive body or a conductive body assembly.

4. (Original) The grounding system of Claim 2 wherein:

each said mounting body is a conductive body; and

each said mounting body conductive body is a partially conductive body.

5. (Original) The grounding system of Claim 3 wherein each said mounting body has a simplified shape.

6. (Original) The grounding system of Claim 2 wherein each said multi-function line coupling is a clamping assembly.

7. (Original) The grounding system of Claim 6 wherein each said multi-function line coupling includes one of a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly.

8. (Previously presented) The grounding system of Claim 2 wherein:
said number of multi-function line couplings includes a plurality of multi-function line couplings; and
each said multi-function line coupling spaced one of a first effective distance, a second effective distance, or a third effective distance from another multi-function line coupling.
9. (Original) The grounding system of Claim 1 wherein said multi-function line assembly does not include any grounding splices.
10. (Original) The grounding system of Claim 1 wherein said multi-function line assembly does not include any medial grounding splices.
11. (Original) The grounding system of Claim 1 wherein said multi-function line includes one of a highly conductive body or a partially conductive body.
12. (Original) The grounding system of Claim 1 wherein said multi-function line includes strands selected from the group consisting of: copper strands, copper-clad steel strands, galvanized strands, conductive alloy strands, partially conductive, alloy strands, or composite strands.
13. (Original) The grounding system of Claim 1 wherein said multi-function line assembly includes a conductive terminal support.
14. (Original) The grounding system of Claim 12 wherein said multi-function line assembly terminal support includes a conductive thimble-eye.
15. (Previously presented) A grounding system comprising a multi-function line.
16. (Original) The grounding system of Claim 14 wherein said multi-function line is structured to be operational with solar electrical equipment.

17. (Original) The grounding system of Claim 14 wherein said multi-function line assembly does not include any grounding splices.

18. (Original) The grounding system of Claim 14 wherein said multi-function line assembly does not include any medial grounding splices.

19. (Original) The grounding system of Claim 14 wherein said multi-function line includes one of a highly conductive body or a partially conductive body.

20. (Withdrawn) A mounting assembly for a grounding system structured to ground a number of cables supported by a support assembly, said support assembly including a plurality of spaced, conductive piles, said grounding system including a multi-function line assembly with a multi-function line, said mounting assembly comprising:

a mounting body, a support coupling, and a number of multi-function line couplings;

each said multi-function line couplings structured to be coupled to said multi-function line;

each said support coupling structured to be coupled to a conductive pile; and

wherein, when said multi-function line assembly is coupled to, and in electrical communication with said multi-function line couplings, each said multi-function line coupling defines a conductive path.

REMARKS

The Invention

The disclosed and claimed concept relates to a grounding system for a suspended cable assembly and, more particularly, to a grounding system that includes conductive elements whereby grounding cables do not need to be spliced into a conductor wire disposed adjacent a messenger wire, and, to a system wherein a multi-function line provides support and a current path.

Status of the Claims

Claims 1-19 are pending in this application. Claim 20 is withdrawn.

Claim 8 is objected to.

Claims 1-5, 8-11, 13 and 15 are rejected under 35 U.S.C. § 102(a)(2) as being anticipated by *Korman et al.* (U.S. Patent Publication No. 2012/0024563).

Claims 6 and 7 are rejected under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Peabody* (U.S. Patent No. 7,057,103).

Claims 12, 14 and 16-19 are rejected under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Hanson et al.* (U.S. Patent Publication No. 2013/0244505).

Claim 8: Objected to

With respect to Claim 8, the Examiner states that the recitation, “said number of multi-function line couplings includes a plurality of multi-function line couplings” is unclear.” Applicants note that the term “number” is defined as follows: “As used herein, the term ‘number’ shall mean one or an integer greater than one (i.e., a plurality). Thus, for example, a ‘number of elements’ means one element or a plurality of elements.”

Thus, Claim 1 recites one or a plurality of multi-function line couplings whereas Claim 8 further limits Claim 1 to a “plurality” of multi-function line couplings. Given that an Applicant is allowed to be their own lexicographer and as the term “number” is specifically defined, the recitations of Claim 8 are clear.

Based on the comments above, the objection to Claim 8 should be withdrawn.

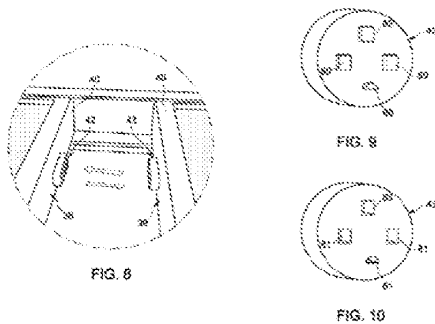
Reply to Examiner's Response to Arguments

The Examiner has, essentially, repeated the rejections from the prior Office Action. The response to those rejections is set forth below. The following is a Reply to the Examiner's Response to Arguments set forth at page 7.

Applicants have previously noted that the claims recite a "multi-function line" which is a term defined as meaning "a tension member that supports current wires and/or cable hangers, and, which is conductive. That is, a messenger wire is not a 'multi-function line.' Similarly, a conductor that does not support other constructs is not a 'multi-function line.'" Applicants noted that *Korman* fails to disclose a "multi-function line" as defined. This is identified as issue "(1)" by the Examiner. In the Response to Arguments, the Examiner states, "With respect to (1), the weight of a line 60 (mass + gravity) creates weight force which is pulling down on the line between connectors 42, 43 and this forms a tension line. Therefore the line of Korman is equivalent to a multi-function line...."

Korman discloses a system wherein metal frames and metal units coupled to the frame are in electrical communication via electrical couplings, *i.e.* plugs. Simply put, the *Korman* system does not include any cables, wires or any other tension member. With respect, the Examiner seems to be reading too much into the disclosure of *Korman*. This is, in some respects, due to errors in *Korman*. For example, *Korman* describes element 60 as both "a dc ground conductor pin 60" and as "the dc grounding conductor path 60." Moreover, the figures show element 60 as both a plug (Figure 9) and as a path (Figures 3 and 4). As Applicants understand the Examiner's statement, the Examiner is asserting that the depiction of element 60 as an elongated path discloses a "tension member." Applicants respectfully disagree.

The present Applicant cannot correct the errors in *Korman*, but notes the following. While Figure 3 is not described as "schematic," Figure 3 is clearly a schematic view of the disclosed system. For example, elements "male ac-voltage plug and play connector 42 and a female ac-voltage plug and play connector 43" are shown as "plug and play connectors" in Figures 8-10, shown below.



Yet, in Figures 3 and 4, these elements are shown in a simplified, *i.e.*, schematic, form as simple lines. As part of this schematic view, Figures 3 and 4 further show the “the dc grounding conductor path 60” as an elongated line (“line” meaning “a mark or stroke long in proportion to its breadth” and not as meaning “a wire circuit connecting two or more pieces of electric apparatus”). This does not, however, establish that *Korman* discloses a “tension member.”

First, *Korman* never describes element 60 as a tension member. Second, *Korman* discusses and shows element 60 as a rigid electrical coupling, *i.e.*, a “plug” as shown below.

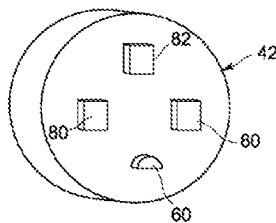


FIG. 9

Further, *Korman* describes, and shows in Figure 8, “a metallic enclosure or case 40 that includes a male ac-voltage plug and play connector 42 and a female ac-voltage plug and play connector 43.” Thus, the “the dc grounding conductor path 60” is via the frames which are coupled via the connectors 42, 43. That is, *Korman* never discloses a wire, cable, or any other tension member.

Further, or alternatively, to the extent the Examiner asserts that *Korman* element 60 is a tension member, the Examiner is relying upon a possibility, not the actual disclosure of *Korman*. As set forth in MPEP § 2112:

The fact that a certain result or characteristic **may occur** or be present in the prior art **is not sufficient to establish the inherency of that result or characteristic**. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re*

Oelrich, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

Nothing in *Korman* discloses that element 60 is a tension member. That is, the Examiner's assertion is actually a mere possibility. A "mere possibility," however, is insufficient to establish the inherency of such a characteristic. Accordingly, *Korman* does not disclose a tension member. Further, as a "multi-function line" is defined as meaning "a tension member...", *Korman* cannot disclose a "multi-function line." Thus, *Korman* cannot anticipate the present claims.

The Examiner further states, "It is noted that the features upon which applicant relies (i.e., that supports current wires and/or cable hanger and which is conductive) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993)." With respect, the claims recite a "multi-function line" which must be interpreted per the specific definition. Thus, Applicants must ask; if the Examiner is not interpreting a "multi-function line" as a "tension member that supports current wires and/or cable hangers, and, which is conductive," then how is the Examiner interpreting the term? Applicants request that the Examiner provide a specific answer to this question in the Advisory Action as this will be an issue on Appeal if this rejection is not withdrawn.

That is, as noted previously, under MPEP §2111 IV, "Where an explicit definition is provided by the Appellant for a term, that definition will control interpretation of the term as it is used in the claim." It appears that the Examiner is not interpreting the term "multi-function line" according to the specific definition. Thus, to present this issue to the Appeal Board, Applicants request that the Examiner provide a statement as to exactly how the term "multi-function line" is being interpreted. Thus, Applicants request that, in the Advisory Action, the Examiner completes the following sentence, "According to the Examiner, a 'multi-function line' is interpreted as meaning _____ and this element is disclosed in *Korman* by element _____."

The Applicants further noted that the recited term “conductive terminal support” is a defined term. The Examiner identified this as issue “(2).” In response to Applicants’ statements, the Examiner stated, “With respect to (2), multi-function line assembly of Korman includes a conductive terminal support (62, 64).”

To paraphrase the “Argument Clinic” sketch by Monty Python’s Flying Circus; contradiction is not an argument. That is, the Examiner has not actually provided a substantive response to the Applicants’ argument. Applicants cited the law, the special definition and noted the differences between the cited art and the special definition. The Examiner’s response fails to address, let alone counter, any of these points. Accordingly, Applicants rely on the previous argument which is set forth again below.

Further, the Examiner has not addressed Applicants arguments regarding any other claims. The Examiner has, however, repeated the rejections of the other claims. Thus, the Examiner is in violation of MPEP §707.07(f) which states, “Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant’s argument and answer the substance of it.”

In view of the fact that the Examiner has not responded to Applicants’ prior arguments, Applicants rely on the previous arguments which are set forth below.

Claims 1-5, 8-11, 13 and 15; Rejected under 35 U.S.C. § 102(a)(2)

Claims 1-5, 8-11, 13 and 15 are rejected under 35 U.S.C. § 102(a)(2) as being anticipated by *Korman et al.* (U.S. Patent Publication No. 2012/0024563). *Korman* discloses a photovoltaic (PV) ac-module grounding system that includes a plurality of PV dc-voltage modules. Each PV dc-voltage module is integrated with a corresponding dc-ac micro-inverter to provide a corresponding PV ac-voltage module. Each PV ac-voltage module includes an ac-voltage plug and play connector that includes a dc ground conductor. Each dc-ac micro-inverter is internally electrically connected to its own chassis ground or metal enclosure which, in turn, is electrically connected to a corresponding dc ground conductor. A dc ground path is carried through an ac power bus from ac-voltage module to ac-voltage module through the plug and play connectors via the dc ground conductors.

MPEP §2111 IV states:

An Appellant is entitled to be his or her own lexicographer and may rebut the presumption that claim terms are to be given their ordinary and customary meaning by clearly setting forth a definition of the term that is different from its ordinary and customary meaning(s). See *In re Paulsen*, 30 F.3d 1475, 1480, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994) (inventor may define specific terms used to describe invention, but must do so “with reasonable clarity, deliberateness, and precision” and, if done, must “‘set out his uncommon definition in some manner within the patent disclosure’ so as to give one of ordinary skill in the art notice of the change” in meaning) (quoting *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387-88, 21 USPQ2d 1383, 1386 (Fed. Cir. 1992)). Where an explicit definition is provided by the Appellant for a term, that definition will control interpretation of the term as it is used in the claim. *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999) (meaning of words used in a claim is not construed in a “lexicographic vacuum, but in the context of the specification and drawings”). Any special meaning assigned to a term “must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention.” *Multiform Desiccants Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1477, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998). See also *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999)....

The present specification provides “as used herein, a ‘multi-function line’ means a tension member that supports current wires and/or cable hangers, and, which is conductive. That is, a messenger wire is not a ‘multi-function line.’ Similarly, a conductor that does not support other constructs is not a ‘multi-function line.’” Claim 1 recites “a multi-function line assembly” and, as amended, a “multi-function line.”

Korman fails to disclose a “multi-function line.” That is, the supported elements are the “c-voltage modules 38” which are supported by the “frame structure 46.” The conductive elements include “a dc-voltage ground connection 60,” “ac-voltage pins 80,” and “a neutral conductor pin 82.” The frame structure 46 is not a “tension member” and, as such, the frame structure cannot be a “multi-function line.” The conductive elements do not support current wires and/or cable hangers. Thus, the conductive elements are not a “multi-function line.”

Anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention. *RCA Corp. v. Applied Digital Data Sys., Inc.*, 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). In other words, there must be no difference between the claimed invention and the referenced disclosure, as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic &*

Research Found. v. Genentech Inc., 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991). As stated in MPEP §2131:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference....
The **identical** invention must be shown in as complete detail as is contained in the ... claim.

Verdigaal Brothers v. Union Oil Company of California, 814 F.2d 628, 631 (Fed. Cir. 1987) (emphasis added) and *Richardson v. Suzuki Motor Company*, 868 F.2d 1226, 1236, (Fed. Cir. 1989).

As *Korman* fails to disclose a “multi-function line,” *Korman* cannot disclose a grounding system that is identical to the grounding system recited in Claim 1. Accordingly, the rejection of Claim 1 should be withdrawn.

Claim 2 depends from Claim 1 and recites “a number of multi-function line couplings.” Applicants note that the Examiner does not identify any specific element in *Korman* as a “multi-function line coupling.” That is, the Examiner identifies *Korman* elements 36 and 44 as “a mounting body” and a “support coupling,” respectively, but does not identify a “multi-function line coupling.” The Examiner has interpreted the term “multi-function line coupling” in an overly broad manner.

The Court of Appeals for the Federal Circuit has recently addressed the issue of claim term interpretation in, *In re: Smith International, Inc.*, Fed. Cir. 2016-2303, Decided: September 26, 2017. In *Smith*, U.S. Patent No. 6,732,817 was invalidated during an *ex parte* reexamination. The claims related to a hydraulic drilling tool. The claim term at issue was “body.” That is, the claims recited, *inter alia*, “An expandable downhole tool for use in a drilling assembly positioned within a wellbore having an original diameter borehole and an enlarged diameter borehole, comprising: a body” The claims recited that other elements, such as, but not limited to a “mandrel,” interacted with the “body.” These claims were rejected in view of a reference that disclosed a drilling assembly with what the Examiner identified as a “body,” as well as other elements such as a “mandrel” and “cam sleeves.” In rejecting the claims, the Examiner (and the Appeal Board) found that the term “body” should be interpreted broadly and included elements such as the cam sleeves. That is, the Board stated that the term “‘body’ is a generic term such as ‘member’ or ‘element’ that by itself provides no structural specificity.”

Board Decision, 2016 Pat. App. LEXIS 3764, at *4. Further, “The Board affirmed the examiner’s interpretation of the term ‘body as a broad term that may encompass other components such as ‘mandrel’ and ‘cam sleeve,’ reasoning that only the term ‘body’ is recited in the claims without further limiting features and that the specification neither defines the term ‘body’ nor prohibits the examiner’s broad reading of it.” *Ibid* at 9.

On appeal, the rejections were reversed. The United States Court of Appeals for the Federal Circuit found that it was improper for the Examiner to interpret the term “body” in such a broad manner. That is, contrary to the Examiner and the Board who asserted that the term “body” could be interpreted as, essentially, anything, the Federal Circuit stated:

The Board reasoned that although “the specification describes the body as a discrete element separate from other elements,” the specification does not “define[] the term ‘body’” or “preclude the Examiner’s interpretation.” *Id.* (emphases in original). The Board also rejected Smith’s argument that the person of ordinary skill in the art would understand the term “body” as a distinct element from other components, reasoning that Smith “has not shown that the parts identified in the prior art as bodies are so similar as to create a specific identity of what a body is.”

....

We conclude that the Board’s construction of “body” was unreasonably broad. Even when giving claim terms their broadest reasonable interpretation, the Board cannot construe the claims “so broadly that its constructions are unreasonable under general claim construction principles.” “[T]he protocol of giving claims their broadest reasonable interpretation . . . **does not include giving claims a legally incorrect interpretation**” “**divorced from the specification and the record evidence.**”

It is true that some of the claims at issue recite a broad term “body” without further elaboration on what the term “body” encompasses. J.A. 15, 17 (claims 28 and 43). However, the remainder of the specification does not use the term as a generic body. There is no dispute that the ’817 patent specification consistently describes and refers to the body as a component distinct from others, such as the mandrel, piston, and drive ring.

The correct inquiry in giving a claim term its broadest reasonable interpretation in light of the specification is not whether the specification proscribes or precludes some broad reading of the claim term adopted by the examiner. And it is not simply an interpretation that is not inconsistent with the specification. **It is an interpretation that corresponds with what and how the inventor describes his invention in the specification, i.e., an interpretation that is “consistent with the specification.”**

Id. at 10-13, internal citations omitted, emphasis added.

That is, the court held that broad terms, such as “body,” cannot be interpreted in a manner that is inconsistent with the specification’s description of the “body.” Such a construction of a claim term is not reading the specification into the claims, but rather is interpreting the claim terms in view of the specification.

The present specification does not define the term “multi-function line coupling.” The term, however, consists of a noun adjunct (a noun used as an adjective) that modifies a noun. That is, the term “multi-function line” modifies the term “coupling.” It is understood that in this format, the noun adjunct identifies the type of coupling. For example, in the term “electrical coupling,” the term “electrical” modifies the term “coupling” and identifies the type of coupling. Thus, a “multi-function line coupling” is a coupling for a “multi-function line.” That is, as stated in the present specification, “each multi-function line coupling 66 is structured to, and does, couple, directly couple, temporarily couple, or fix the multi-function line 35 to the mounting body 62.” Page 15, lines 10-12.

As noted above, the term “multi-function line” is a defined term. Moreover, as noted above, *Korman* does not disclose a “multi-function line.” As such, *Korman* cannot disclose a “multi-function line coupling.” That is, under *Smith*, it is improper to identify a random member as a “body” when the term “body” has a meaning in the specification. Similarly, it is improper to identify any coupling as a “multi-function line coupling” when that term has a meaning in the present specification. As *Korman* does not disclose a “multi-function line coupling” as that term is used in the present specification, *Korman* cannot disclose a grounding system that is identical to the grounding system recited in Claim 2. Accordingly, the rejection of Claim 2 should be withdrawn.

Claims 3-5 rely on their dependency for patentability.

For the reasons stated above with respect to Claim 2, *Korman* does not disclose a plurality of multi-function line couplings. Moreover, Claim 8 has been amended to recite that the multi-function line couplings are spaced by “one of a first effective distance, a second effective distance, or a third effective distance.” Each of the “first effective distance,” “second effective distance,” and “third effective distance” are defined terms. *Korman* does not disclose a plurality of multi-function line couplings spaced by distances according to the defined terms. As

Korman does not disclose a “multi-function line coupling” as that term is used in the present specification and/or the defined spacing, *Korman* cannot disclose a grounding system that is identical to the grounding system recited in Claim 8. Accordingly, the rejection of Claim 8 should be withdrawn.

Claims 9-11 rely on their dependency for patentability.

Claim 13 recites “wherein said multi-function line assembly includes a conductive terminal support.” The term “conductive terminal support” is a defined term. The specification provides, “As used herein, a ‘conductive terminal support’ 44 is structured to couple a multi-function line 35 to a support, draw the multi-function line 35 taut, and provide a current path between the multi-function line 35 and the support.” Page 10, lines 17-20. The Examiner asserts that *Korman* elements 42 and 43 are a “conductive terminal support.” As shown in Figures 9 and 10, *Korman* elements 42 and 43 are, essentially, the ends of an extension cord, *i.e.*, a plug coupling and a socket coupling. These couplings are not “structured to couple a multi-function line 35 to a support, draw the multi-function line 35 taut, and provide a current path between the multi-function line 35 and the support.”

As *Korman* does not disclose a “conductive terminal support” as that term is defined in the present specification, *Korman* cannot disclose a grounding system that is identical to the grounding system recited in Claim 13. Accordingly, the rejection of Claim 13 should be withdrawn.

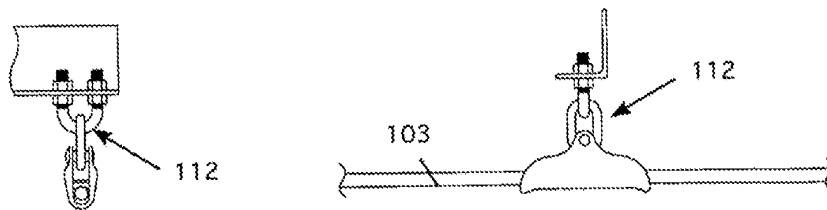
The argument with respect to Claim 1 is also applicable to Claim 15.

Based on the comments above, the rejection of Claims 1-5, 8-11, 13 and 15 under 35 U.S.C. § 102(a)(2) should be withdrawn.

Claims 6 and 7; Rejected under 35 U.S.C. § 103

Claims 6 and 7 are rejected under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Peabody* (U.S. Patent No. 7,057,103). *Korman* is discussed above. *Peabody* discloses a device for reducing a shock load having a longitudinal direction along a power line coupled through an insulator to a crossarm of a transmission tower, comprising: a rotary damper coupled between the insulator and the crossarm for rotating by the insulator in the longitudinal direction in response to the shock load, the damper having an axle to which the insulator is rotatably coupled; and, a torsion bar coupled at a

first end to the axle and at a second end to the crossarm for resisting rotation of the insulator, whereby at least a portion of the shock load is absorbed. The Examiner focuses on Figures 4 and 5 which disclose a “shield wire suspension assembly” or “suspension clamp 112” shown below.



Claim 6 recites, “wherein each said multi-function line coupling is a clamping assembly.” The term “clamping assembly” is a defined term. That is, the specification provides, “[a]s used herein, a ‘clamping assembly’ includes two elements acting in concert, *i.e.*, together, as well as a bias device such as, but not limited to, a spring or a threaded rod.” Applicants note that the “shield wire suspension assembly” includes a cradle that supports a cable. The cradle has a generally U-shaped cross-section. There is no indication that the cradle is compressed so as to provide bias against the cable. For example, it is noted that the distal ends of the U-shaped cradle are not coupled to the chain link by a threaded rod. Accordingly, there is no indication that the shield wire suspension assembly is a “clamping assembly” as that term is defined in the present specification.

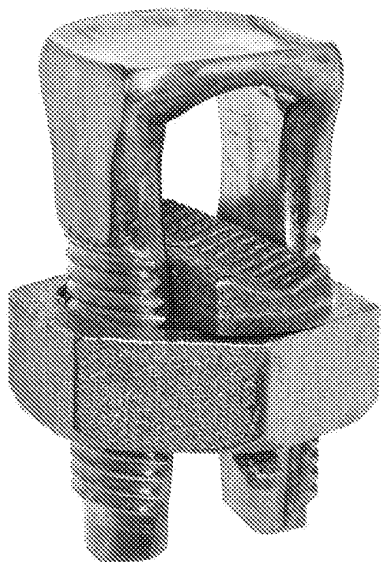
As none of the cited art discloses a “clamping assembly” as that term is defined in the present specification, no combination of these references can teach or suggest the grounding system recited in Claim 6.

Claim 7 recites each said multi-function line coupling includes one of a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly. The terms “clam-shell,” “split bolt,” “U-bolt,” and “lay-in lug assembly” are not defined in the present application. These types of couplings, however, are well known. The shield wire suspension assembly disclosed in *Peabody* is not any of a “clam-shell,” “split bolt,” “U-bolt,” or “lay-in lug assembly.”

That is, a “clam-shell” includes two elements coupled at a pivot, *i.e.*, like a clam. See Google Dictionary which provides, “a thing with hinged parts that open and shut in a manner resembling the parts of a clamshell.” *Id.* at <https://www.google.com/search?q=define%3Aclam-shell&oq=define%3Aclam->

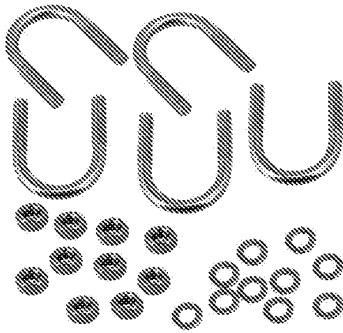
shell&aqs=chrome..69i57j69i58.6750j0j8&sourceid=chrome&ie=UTF-8. The shield wire suspension assembly disclosed in *Peabody* does not include two elements coupled by a hinge.

A “split bolt” is a bolt having a longitudinal channel cut in the shaft. For example, a search of Amazon.com discloses many split bolts including the Morris Products 90324 Split Bolt Connector, shown below, and which is found at https://smile.amazon.com/Morris-Products-90324-Connector-Conductors/dp/B01CF33IHQ/ref=sr_1_7?ie=UTF8&qid=1521661144&sr=8-7&keywords=split+bolt.



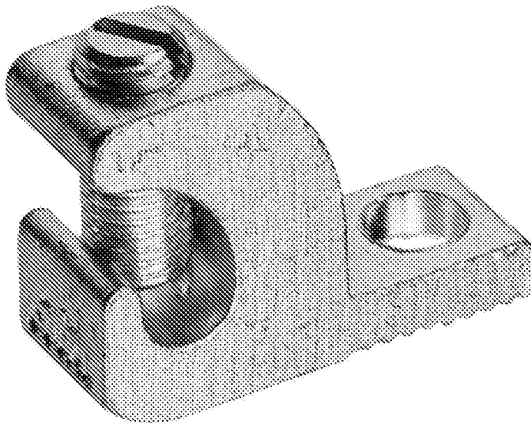
Peabody does not disclose a “split bolt.”

A “U-bolt” is a U-shaped rod with two threaded ends. “U-bolts” are easily located on Amazon.com such as the U-bolts shown below which are found at https://smile.amazon.com/Stainless-Steel-Bolts-Screws-Pack/dp/B010PZS5H4/ref=sr_1_14?s=industrial&ie=UTF8&qid=1521661323&sr=1-14&keywords=U-bolt.



Peabody does not disclose a “U-bolt.”

Finally, a “lay-in lug” includes a base defining a C-shaped portion that defines a threaded opening and a channel for a cable. While less well known, lay-in lugs are also common and can be found on Amazon.com. *See e.g.*, the Thomas & Betts BG LL414 LAY IN LUG shown below and found at https://smile.amazon.com/Thomas-Betts-LL414-LAY-Pack/dp/B008KM5AFA/ref=sr_1_4?s=industrial&ie=UTF8&qid=1521661431&sr=1-4&keywords=lay-in+lug&dpID=51LsrzXyYLL&preST=_SX342_QL70_&dpSrc=srch.



Moreover, each of the couplings as described above are shown in the figures of the present application.

As none of the cited art discloses a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly as those terms are used in the present specification, no combination of these references can teach or suggest the grounding system recited in Claim 7.

In view of the comments above, the rejections of Claims 6 and 7 under 35 U.S.C. § 103 should be withdrawn.

Claims 12, 14 and 16-19: Rejected under 35 U.S.C. § 103

Claims 12, 14 and 16-19 are rejected under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Hanson et al.* (U.S. Patent Publication No. 2013/0244505). *Korman* is discussed above. *Hanson* discloses a compression terminal comprising an electrical terminal member, the electrical terminal member configured to receive a stranded wire having a protective outer jacket surrounding a strand bundle, a fastener member including a first inner bore having a first diameter and a second inner bore having a second diameter, the second diameter being less than the first diameter, wherein an internally tapered wall separates the first inner bore from the second inner bore, wherein, when the fastener member is axially slidably compressed from a first position to a second position, the fastener member is configured to compress a portion of the electrical terminal member against the stranded wire.

With respect, the rejection of Claims 12, 14 and 16-19 is unclear. The initial paragraph is a sentence fragment reading, “wherein said multi-function line assembly made of copper [0004].” This sentence fragment is not tied to any specific claim. Applicants understand that this sentence fragment is related to Claim 12 and the subsequent discussion of *Hanson*. That is, the Examiner notes that *Korman* does not disclose “strands.” The Examiner further states that *Korman* and *Hanson* would be combined to “enhancing flexibility.” Applicants respectfully disagree.

It is well known that a cable, *i.e.*, a bundle of strands/wires, is less flexible than a single strand/wire. That is, no known material becomes more flexible when the amount of the material is increased. For example, a wire with a 0.1 mm diameter is more flexible than a wire made from the same material but with a 0.2 mm diameter. Similarly, twisting strands/wires into a cable increases their collective stiffness. Thus, the reason for the proposed combination of *Korman* and *Hanson* is not valid. That is, if the single *Korman* wire was combined with other strands and formed into a cable as in *Hanson*, the resulting construct would be less flexible relative to the single wire. Accordingly, reason for the proposed combination is not supported and the rejection of Claim 12 should be withdrawn.

Claims 14 and 16 rely upon their dependency for patentability.

Claim 17 recites that the “multi-function line assembly does not include any grounding splices.” The term “grounding splice” is not specifically defined, but the use thereof is discussed in detail. That is, the specification notes that, in the prior art, a messenger wire was disposed adjacent a “grounding conductor.” In that configuration, the messenger wire supported other elements and the grounding conductor was coupled to a “grounding splice” to provide a current path to ground. Thus, a “grounding splice” is a separate path to ground from a support line. As *Korman* fails to disclose a “multi-function line assembly” or any other support line, *Korman* cannot disclose the lack of a grounding splice therefrom. This argument also applies to Claim 18.

Claim 19 relies upon its dependency for patentability.

In view of the comments above, the rejections of Claims 12, 14 and 16-19 under 35 U.S.C. § 103 should be withdrawn.

CONCLUSION

In view of the remarks above, Applicants respectfully submit that the application is in proper form for issuance of a Notice of Allowance and such action is requested at an early date.

Respectfully submitted,

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First Named Inventor/Applicant Name:	ALLEN GARRETT SMITH
Customer Number:	3705
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1		308329-00021RESPONSEAF.pdf	12989136	yes	19
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Multipart Description/PDF files in .zip description			
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15/725,668	10/05/2017	ALLEN GARRETT SMITH	308329-00021	2706
3705 7590 06/28/2018 ECKERT SEAMANS CHERIN & MELLOTT LLC U.S. Steel Tower 600 Grant Street, 44th Floor Pittsburgh, PA 15219 UNITED STATES OF AMERICA			EXAMINER NGO, HUNG V ART UNIT PAPER NUMBER 2847 NOTIFICATION DATE DELIVERY MODE 06/28/2018 ELECTRONIC	

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

ipmail@eckertseamans.com

Advisory Action Before the Filing of an Appeal Brief	Application No. 15/725,668	Applicant(s) SMITH ET AL.	
	Examiner HUNG V. NGO	Art Unit 2847	AIA (First Inventor to File) Status Yes

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

THE REPLY FILED 31 May 2018 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.
NO NOTICE OF APPEAL FILED

1. ☒ The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:

a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.

b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

c) ☐ A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first after-final reply filed within 2 months of the mailing date of the final rejection. The current period for reply expires _____ months from the mailing date of the prior Advisory Action or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.

Examiner Note: If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANT'S FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because:

a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);

b) ☐ They raise the issue of new matter (see NOTE below);

c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or

d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☐ For purposes of appeal, the proposed amendment(s): (a) ☐ will not be entered, or (b) ☐ will be entered, and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

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

9. ☐ The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

10. ☐ The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

11. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

12. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
the final rejection was proper.

13. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____

14. ☐ Other: _____.

STATUS OF CLAIMS

15. The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: 1-19.

Claim(s) withdrawn from consideration: 20.

	/HUNG V NGO/ Primary Examiner, Art Unit 2847
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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.

NOTICE OF APPEAL FROM THE EXAMINER TO THE PATENT TRIAL AND APPEAL BOARD		Docket Number (Optional) 308329-00021								
I hereby certify that this correspondence is being facsimile transmitted to the USPTO, EFS-Web transmitted to the USPTO, or deposited with the United States Postal Service with sufficient postage in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, on Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on _____. Signature _____ Typed or printed name _____	<table border="1" style="width: 100%; border-collapse: collapse;"><tr><td colspan="2" style="padding: 2px;">In re Application of Allen Garrett Smith</td></tr><tr><td style="width: 50%; padding: 2px;">Application Number 15725668</td><td style="width: 50%; padding: 2px;">Filed 2017-10-05</td></tr><tr><td colspan="2" style="padding: 2px;">For Grounding System</td></tr><tr><td style="padding: 2px;">Art Unit 2847</td><td style="padding: 2px;">Examiner Hung V. Ngo</td></tr></table>		In re Application of Allen Garrett Smith		Application Number 15725668	Filed 2017-10-05	For Grounding System		Art Unit 2847	Examiner Hung V. Ngo
In re Application of Allen Garrett Smith										
Application Number 15725668	Filed 2017-10-05									
For Grounding System										
Art Unit 2847	Examiner Hung V. Ngo									
Applicant hereby appeals to the Patent Trial and Appeal Board from the last decision of the examiner. The fee for this Notice of Appeal is (37 CFR 41.20(b)(1)) \$ <u>800</u> ☒ Applicant asserts small entity status. See 37 CFR 1.27. Therefore, the fee shown above is reduced by 50%, and the resulting fee is: \$ <u>400</u> ☐ Applicant certifies micro entity status. See 37 CFR 1.29. Therefore, the fee shown above is reduced by 75%, and the resulting fee is: \$ _____ Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously. ☐ A check in the amount of the fee is enclosed. ☐ Payment by credit card. Form PTO-2038 is attached. ☐ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. _____. ☒ Payment made via EFS-Web. ☐ A petition for an extension of time under 37 CFR 1.136(a) (PTO/AIA/22 or equivalent) is enclosed. For extensions of time in reexamination proceedings, see 37 CFR 1.550. 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. I am the ☐ applicant ☒ attorney or agent of record ☐ attorney or agent acting under 37 CFR 1.34 Registration number <u>42691</u> Registration number _____ Signature <u>/David C. Jenkins/</u> Typed or printed name <u>David C. Jenkins</u> Telephone Number <u>412-566-1253</u> Date <u>2018-07-05</u> NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*. ☐ * Total of _____ forms are submitted.										

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

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

Privacy Act Statement

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

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

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

Electronic Patent Application Fee Transmittal				
Application Number:		15725668		
Filing Date:		05-Oct-2017		
Title of Invention:		GROUNDING SYSTEM		
First Named Inventor/Applicant Name:		ALLEN GARRETT SMITH		
Filer:		David C. Jenkins/JANICE JENE		
Attorney Docket Number:		308329-00021		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
NOTICE OF APPEAL	2401	1	400	400
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				400

Electronic Acknowledgement Receipt

EFS ID:	33090625
Application Number:	15725668
International Application Number:	
Confirmation Number:	2706
Title of Invention:	GROUNDING SYSTEM
First Named Inventor/Applicant Name:	ALLEN GARRETT SMITH
Customer Number:	3705
Filer:	David C. Jenkins/JANICE JENE
Filer Authorized By:	David C. Jenkins
Attorney Docket Number:	308329-00021
Receipt Date:	05-JUL-2018
Filing Date:	05-OCT-2017
Time Stamp:	10:52:58
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$400
RAM confirmation Number	070518INTEFSW10541700
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	Notice of Appeal Filed	308329-00021NOTICEOFAPPEAL.pdf	1044210	no	2
			f07088d6359e83d6da115820a3e65491837a1f0d		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30074	no	2
			558e81792fb559dc6de8ce106af3f8a51cd7a16b		
Warnings:					
Information:					
Total Files Size (in bytes):			1074284		
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.					

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Examiner: Hung V. Ngo

Confirmation No. 2706

Group Art Unit: 2847

GROUNDING SYSTEM

In re Application of:
ALLEN GARRETT SMITH et al.

Serial No. 15/725,668

Filed: October 5, 2017

Attorney Docket No. 308329-00021

APPELLANT'S BRIEF ON APPEAL

July 12, 2018

Commissioner for Patents
MAIL STOP APPEAL BRIEF - PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

This is an Appeal from the decision of the Examiner, dated May 17, 2018, rejecting Claims 1-19 of the above-identified application. The claims are set forth in Appendix 1, which is attached hereto.

Real Party In Interest

The real party in interest is Cambria County Association for the Blind and Handicapped. An assignment from the inventors to Cambria County Association for the Blind and Handicapped was recorded on October 5, 2017 and is recorded at Reel/Frame 043797/0011.

Related Appeals and Interferences

There are no other appeals or interferences known to Appellants or to Appellants' legal representative which will directly affect, be directly affected by, or have a bearing on the Board's decision in the pending appeal.

Status of the Claims

Claims 1-19 are pending in this application.

Claim 8 stands objected to; Claims 1-5, 8-11, 13 and 15 stand rejected under 35 U.S.C. § 102(a)(2) as being anticipated by *Korman et al.* (U.S. Patent Publication No. 2012/0024563); Claims 6 and 7 stand rejected under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Peabody* (U.S. Patent No. 7,057,103); Claims 12, 14 and 16-19 stand rejected under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Hanson et al.* (U.S. Patent Publication No. 2013/0244505); and Claim 20 has been withdrawn.

The claims on appeal are:

Claims 1-5, 8-11, 13 and 15 are rejected under 35 U.S.C. § 102(a)(2) as being anticipated by *Korman et al.* (U.S. Patent Publication No. 2012/0024563).

Claims 6 and 7 are rejected under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Peabody* (U.S. Patent No. 7,057,103).

Claims 12, 14 and 16-19 are rejected under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Hanson et al.* (U.S. Patent Publication No. 2013/0244505).

Status of the Amendments

There are currently no amendments to the pending claims. The claims as they stand on Appeal are contained in the Appendix 1 to this Brief.

Summary of the Claimed Subject Matter

The disclosed and claimed grounding system (40, p. 11, l. 25) is structured to ground a number of cables (52, p. 13, l. 4) supported by a support assembly (30, p. 10, l. 8). The grounding system (40, p. 11, l. 25) includes a multi-function line assembly (35, p. 10, l. 12) and a number of conductive mounting assemblies (60, p. 13, l. 23). Each conductive mounting assembly (60, p. 13, l. 23) is structured to be, and is, coupled to the multi-function line (35, p. 10, l. 12) and to a conductive pile (32, p. 10, l. 20). This configuration provides a path to ground for a current in the multi-function line assembly (35, p. 10, l. 12). Further, the multi-function line

(35, p. 10, l. 12) supports the cable hangers (38, p. 10, l. 14) (which support the current wires, data wires and other wires). That is, a single multi-function line (35, p. 10, l. 12) supports the cable hangers (38, p. 10, l. 14), as a messenger wire (34, p. 10, l. 10), and provides a current path, as a grounding conductor. Accordingly, as used herein, a “multi-function line” means a tension member that supports current wires and/or cable hangers (38, p. 10, l. 14), and, which is conductive. That is, a messenger wire is not a “multi-function line.” Similarly, a conductor that does not support other constructs is not a “multi-function line.”

1. (Previously presented) A grounding system (40, p. 11, l. 25) structured to ground a number of cables supported by a support assembly (30, p. 10, l. 8), said support assembly (30, p. 10, l. 8) including a plurality of spaced, conductive piles (32, p. 10, l. 20), said grounding system (40, p. 11, l. 25) comprising:

a multi-function line assembly (37, p. 10, l. 13) including a multi-function line (35, p. 10, l. 12);

a number of conductive mounting assemblies (60, p. 13, l. 23), each said conductive mounting assembly (60, p. 13, l. 23) structured to be coupled to said multi-function line (35, p. 10, l. 12) and to a conductive pile (32, p. 10, l. 20); and

wherein said multi-function line assembly (35, p. 10, l. 12) is coupled to, and in electrical communication with, said number of conductive mounting assemblies (60, p. 13, l. 23).

2. (Original) The grounding system (40, p. 11, l. 25) of Claim 1 wherein:

each said conductive mounting assembly (60, p. 13, l. 23) includes a mounting body (62, p. 14, l. 5), a support coupling (64, p. 14, l. 5), and a number of multi-function line couplings (66, p. 14, l. 5); and

each said multi-function line coupling (35, p. 10, l. 12) defines a conductive path.

3. (Original) The grounding system (40, p. 11, l. 25) of Claim 2 wherein each said mounting body (62, p. 14, l. 5) is one of a conductive body (42, p. 12, l. 16) or a conductive body assembly.

4. (Original) The grounding system (40, p. 11, l. 25) of Claim 2 wherein:

each said mounting body (70, p. 14, l. 8) is a conductive body (70, p. 14, l. 8); and

each said mounting body conductive body (70, p. 14, l. 8) is a partially conductive body (50, p. 12, l. 29).

5. (Original) The grounding system (40, p. 11, l. 25) of Claim 3 wherein each said mounting body (62, p. 14, l. 5) has a simplified shape.

6. (Original) The grounding system (40, p. 11, l. 25) of Claim 2 wherein each said multi-function line coupling is a clamping assembly (80, p. 15, l. 18).

7. (Original) The grounding system (40, p. 11, l. 25) of Claim 6 wherein each said multi-function line coupling (77, p. 14, l. 5) includes one of a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly.

8. (Previously presented) The grounding system (40, p. 11, l. 25) of Claim 2 wherein:
said number of multi-function line couplings (66, p. 14, l. 5) includes a plurality of multi-function line couplings (66, p. 14, l. 5); and
each said multi-function line coupling (66, p. 14, l. 5) spaced one of a first effective distance, a second effective distance, or a third effective distance from another multi-function line coupling (66, p. 14, l. 5).

9. (Original) The grounding system (40, p. 11, l. 25) of Claim 1 wherein said multi-function line assembly (35, p. 10, l. 12) does not include any grounding splices.

10. (Original) The grounding system (40, p. 11, l. 25) of Claim 1 wherein said multi-function line assembly (35, p. 10, l. 12) does not include any medial grounding splices.

11. (Original) The grounding system (40, p. 11, l. 25) of Claim 1 wherein said multi-function line (25, p. 10, l. 12) includes one of a highly conductive body (42, p. 12, l. 16) or a partially conductive body (50, p. 12, l. 29).

12. (Original) The grounding system (40, p. 11, l. 25) of Claim 1 wherein said multi-function line (35, p. 10, l. 12) includes strands selected from the group consisting of: copper strands, copper-clad steel strands (56, p. 13, l. 6), galvanized strands, conductive alloy strands (44, p. 13, l. 5), partially conductive, alloy strands, or composite strands.

13. (Original) The grounding system (40, p. 11, l. 25) of Claim 1 wherein said multi-function line assembly (35, P. 10, L. 12) includes a conductive terminal support (44, P. 10, L. 17).

14. (Original) The grounding system (40, p. 11, l. 25) of Claim 12 wherein said multi-function line assembly terminal support (44, p. 10, l. 17) includes a conductive thimble-eye (46, p. 10, l. 22).

15. (Previously presented) A grounding system (40, p. 11, l. 25) comprising a multi-function line (35, p. 10, l. 12).

16. (Original) The grounding system (40, p. 11, l. 25) of Claim 14 wherein said multi-function line (35, p. 10, l. 12) is structured to be operational with solar electrical equipment.

17. (Original) The grounding system (40, p. 11, l. 25) of Claim 14 wherein said multi-function line assembly (35, p. 10, l. 12) does not include any grounding splices.

18. (Original) The grounding system (40, p. 11, l. 25) of Claim 14 wherein said multi-function line assembly (35, p. 10, l. 12) does not include any medial grounding splices.

19. (Original) The grounding system (40, p. 11, l. 25) of Claim 14 wherein said multi-function line (35, p. 10, l. 12) includes one of a highly conductive body (42, p. 12, l. 16) or a partially conductive body (42, p. 12, l. 16).

20. (Withdrawn) A mounting assembly (60, p. 13, l. 23) for a grounding system (40, p. 11, l. 25) structured to ground a number of cables supported by a support assembly (30, p. 10, l. 8), said support assembly (30, p. 10, l. 8) including a plurality of spaced, conductive piles (32, p.

10, l. 20), said grounding system (40, p. 11, l. 25) including a multi-function line assembly (35, p. 10, l. 12) with a multi-function line (35, p. 10, l. 12), said mounting assembly (60, p. 13, l. 23) comprising:

a mounting body(70, p. 14, l. 8), a support coupling (64, p. 14, l. 5) , and a number of multi-function line couplings (66, p. 14, l. 5);

each said multi-function line couplings (66, p. 14, l. 5) structured to be coupled to said multi-function line (35, p. 10, l. 12);

each said support coupling (64, p. 14, l. 5) structured to be coupled to a conductive pile (32, p. 10, l. 20); and

wherein, when said multi-function line assembly (35, p. 10, l. 12) is coupled to, and in electrical communication with said multi-function line couplings (66, p. 14, l. 5), each said multi-function line coupling (66, p. 14, l. 5) defines a conductive path.

Grounds of Rejection to be Reviewed on Appeal

Whether Claims 1-5, 8-11, 13 and 15 are unpatentable under 35 U.S.C. § 102(a)(2) as being anticipated by *Korman et al.* (U.S. Patent Publication No. 2012/0024563).

Whether Claims 6 and 7 are obvious under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Peabody* (U.S. Patent No. 7,057,103).

Whether Claims 12, 14 and 16-19 are obvious under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Hanson et al.* (U.S. Patent Publication No. 2013/0244505).

Argument

Claims 1-5, 8-11, 13 and 15: Rejected under 35 U.S.C. § 102(a)(2)

Claims 1-5, 8-11, 13 and 15 are rejected under 35 U.S.C. § 102(a)(2) as being anticipated by *Korman et al.* (U.S. Patent Publication No. 2012/0024563).

Generally, the issue before the Board is whether a rigid frame is a “multi-function line” as that term is defined in the present specification. Stated alternately, the Examiner has interpreted the present claim terms in an overly broad manner. Claim 1 recites “a multi-function line” which is specifically defined in the present specification meaning “a tension member that

supports current wires and/or cable hangers, and, which is conductive.” The specification further notes that a messenger wire is not a “multi-function line.” Similarly, a conductor that does not support other constructs is not a “multi-function line.” Page 3, lines 13-15.

MPEP §2111 IV states:

An Appellant is entitled to be his or her own lexicographer and may rebut the presumption that claim terms are to be given their ordinary and customary meaning by clearly setting forth a definition of the term that is different from its ordinary and customary meaning(s). See *In re Paulsen*, 30 F.3d 1475, 1480, 31 USPQ2d 1671, 1674 (Fed. Cir. 1994) (inventor may define specific terms used to describe invention, but must do so “with reasonable clarity, deliberateness, and precision” and, if done, must “‘set out his uncommon definition in some manner within the patent disclosure’ so as to give one of ordinary skill in the art notice of the change” in meaning) (quoting *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387-88, 21 USPQ2d 1383, 1386 (Fed. Cir. 1992)). Where an explicit definition is provided by the Appellant for a term, that definition will control interpretation of the term as it is used in the claim. *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999) (meaning of words used in a claim is not construed in a “lexicographic vacuum, but in the context of the specification and drawings”). Any special meaning assigned to a term “must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention.” *Multiform Desiccants Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1477, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998). See also *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999)....

In this application, the term “a multi-function line” is introduced by the phrase “as used herein...” Thus, the specification clearly sets forth that the term has a special definition and those of skill in the art have been given notice of the special meaning. Further, the special definition is clear and the Examiner has not asserted that the definition would be unclear to a person of experience in the field of the invention.

Appellants note the special definition uses the term “tension member.” This term is not specifically defined. The Court of Appeals for the Federal Circuit has recently addressed the issue of claim term interpretation in, *In re: Smith International, Inc.*, Fed. Cir. 2016-2303, Decided: September 26, 2017. In *Smith*, U.S. Patent No. 6,732,817 was invalidated during an *ex parte* reexamination. The claims related to a hydraulic drilling tool. The claim term at issue was “body.” That is, the claims recited, *inter alia*, “An expandable downhole tool for use in a drilling assembly positioned within a wellbore having an original diameter borehole and an

enlarged diameter borehole, comprising: a body” The claims recited that other elements, such as, but not limited to a “mandrel,” interacted with the “body.” These claims were rejected in view of a reference that disclosed a drilling assembly with what the Examiner identified as a “body,” as well as other elements such as a “mandrel” and “cam sleeves.” In rejecting the claims, the Examiner (and the Appeal Board) found that the term “body” should be interpreted broadly and included elements such as the cam sleeves. That is, the Board stated that the term “‘body’ is a generic term such as ‘member’ or ‘element’ that by itself provides no structural specificity.” Board Decision, 2016 Pat. App. LEXIS 3764, at *4. Further, “The Board affirmed the Examiner’s interpretation of the term ‘body as a broad term that may encompass other components such as ‘mandrel’ and ‘cam sleeve,’ reasoning that only the term ‘body’ is recited in the claims without further limiting features and that the specification neither defines the term ‘body’ nor prohibits the examiner’s broad reading of it.” *Ibid* at 9.

On appeal, the rejections were reversed. The United States Court of Appeals for the Federal Circuit found that it was improper for the Examiner to interpret the term “body” in such a broad manner. That is, contrary to the Examiner and the Board who asserted that the term “body” could be interpreted as, essentially, anything, the Federal Circuit stated:

The Board reasoned that although “the specification describes the body as a discrete element separate from other elements,” the specification does not “define[] the term ‘body’” or “preclude the Examiner’s interpretation.” *Id.* (emphases in original). The Board also rejected Smith’s argument that the person of ordinary skill in the art would understand the term “body” as a distinct element from other components, reasoning that Smith “has not shown that the parts identified in the prior art as bodies are so similar as to create a specific identity of what a body is.”

....

We conclude that the Board’s construction of “body” was unreasonably broad. Even when giving claim terms their broadest reasonable interpretation, the Board cannot construe the claims “so broadly that its constructions are unreasonable under general claim construction principles.” “[T]he protocol of giving claims their broadest reasonable interpretation . . . **does not include giving claims a legally incorrect interpretation**” “**divorced from the specification and the record evidence.**”

It is true that some of the claims at issue recite a broad term “body” without further elaboration on what the term “body” encompasses. J.A. 15, 17 (claims 28 and 43). However, the remainder of the specification does not use the term as a

generic body. There is no dispute that the '817 patent specification consistently describes and refers to the body as a component distinct from others, such as the mandrel, piston, and drive ring.

The correct inquiry in giving a claim term its broadest reasonable interpretation in light of the specification is not whether the specification proscribes or precludes some broad reading of the claim term adopted by the examiner. And it is not simply an interpretation that is not inconsistent with the specification. **It is an interpretation that corresponds with what and how the inventor describes his invention in the specification, i.e., an interpretation that is “consistent with the specification.”**

Id. at 10-13, internal citations omitted, emphasis added.

That is, the court held that broad terms, such as “body,” cannot be interpreted in a manner that is inconsistent with the specification’s description of the “body.” Such a construction of a claim term is not reading the specification into the claims, but rather is interpreting the claim terms in view of the specification. Further, when a term is not specifically defined, extrinsic reference sources can be used to interpret a claim term. It is noted, however, that when “extrinsic reference sources, such as dictionaries, evidence more than one definition for the term, the intrinsic record must be consulted to identify which of the different possible definitions is *most consistent* with applicant’s use of the terms.” MPEP §2111.01 (emphasis added).

In this application, the term “tension member” is not defined, but is used to mean a construct that has a maximum length when exposed to tension, but is otherwise substantially flexible, such as, but not limited to, a chain or a cable. That is, the term “tension member” is used to describe the “multi-function line” which replaces the messenger wire used in the prior art. As is known, cable hangers are typically supported by a “messenger” wire which is a robust cable capable of supporting weight. This is detailed in the “Background Information” and “Summary of Invention” in the present application. The “Summary of Invention” notes that a “multi-function line” replaces the messenger wire used in the prior art. Further, the specification provides:

- “... the multi-function line supports the cable hangers (which support the current wires, data wires and other wires).” Page 3, lines 9-10
- “in one embodiment, the multi-function line 35 body is a copper wire or a copper cable, i.e., copper wires twisted together or about a copper core” Page 12, lines 29-30.

- “The multi-function line 35 includes one of a highly conductive body or a partially conductive body 50. ... in an exemplary embodiment, the partially conductive body 50 is a **cable** 52 that includes conductive strands” Page 12, line 28 to Page 13, line 5, emphasis added.
- “In another embodiment, not shown, the partially conductive body 50 is a **cable** that includes conductive strands and non-conductive strands.” Page 13, lines 8-9, emphasis added.
- “In another embodiment, not shown, the multi-function line 35 is a **cable** that includes only partially conductive strands such as, but not limited to, copper clad steel strands 56 as described above.” Page 13, lines 9-11, emphasis added.
- “Thus, the multi-function line 35 includes strands 54 selected from the group consisting of: copper strands, copper-clad steel strands, galvanized steel strands, a conductive alloy strands, partially conductive, alloy strands, or are a composite of strands.” Page 13, lines 11-13.
- “As used herein, a ‘split bolt’ includes a threaded rod including a passage and a threaded passage, passage, and/or a nut. As is known, and as shown in Figure 6B, a **cable**, such as multi-function line 35 is passed through the rod passage and the threaded rod is drawn against the passage by tightening the nut.” Page 15, lines 25-28, emphasis added.

Thus, while multiple embodiments are described, the “multi-function line,” *i.e.*, the “tension member,” is described consistently as a “cable” made from “strands.” Further, the Figures show the multi-function line/tension member as a cable. This is not reading the specification into the claims, as prohibited by *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993), but is interpreting the term “tension member” in view of the specification as required by *Smith*.

Thus, in view of the present specification, a “tension member” is a construct that has a maximum length when exposed to tension, such as a cable or a rope.

Further, other patents in the field of solar installations recognize that a “tension member” is a construct such as a cable, rope, or wire. For example, U.S. Patent No. 4,832,001 titled “Lightweight solar panel support” discusses a “tension member” that supports solar panels before stating that, “[s]olar panel 63, 64 are mounted to cable 62” That is, the “tension members” are “cables.” Similarly, U.S. Patent No. 8,988,036 titled, “Solar panel storage and deployment system,” states a “[I]ink 24 could be a tension member (e.g., elastic band, bungee

cord, ratchet strap, etc.) coupled to end 14B of substrate 14 and to one of attachment points 224.” Thus, other patents in the field of solar panel installations also use the term “tension member” to mean a construct that has a maximum length when exposed to tension.

Moreover, the Examiner understands that a “tension member” is a construct that has a maximum length when exposed to tension. The Examiner has stated, “the weight of a line 60 (mass + gravity) creates weight force which is pulling down on the line between connectors 42, 43 and this forms a tension line.” The Examiner is incorrect as to what *Korman* discloses, as discussed below, but it is clear the Examiner understands that a tension member, and therefore a “multi-function line,” is a construct that has a maximum length when exposed to tension such as a cable or wire.

Korman does not disclose a “multi-function line” or a tension member. *Korman* discloses a photovoltaic (PV) ac-module grounding system that includes a plurality of PV dc-voltage modules. Each PV dc-voltage module is integrated with a corresponding dc-ac micro-inverter to provide a corresponding PV ac-voltage module. Each PV ac-voltage module includes an ac-voltage plug and play connector that includes a dc ground conductor. Each dc-ac micro-inverter is internally electrically connected to its own chassis ground or metal enclosure which, in turn, is electrically connected to a corresponding dc ground conductor. A dc ground path is carried through an ac power bus from ac-voltage module to ac-voltage module through the plug and play connectors via the dc ground conductors.

That is, *Korman* discloses a conductive frame assembly and solar panels that are coupled by, and in electrical communication via, male/female couplings. The solar panels are shown being installed on the rigid frames in Figures 5-7, below. Appellants note the male/female coupling is shown to the upper right of reference number 70 in Figure 5.

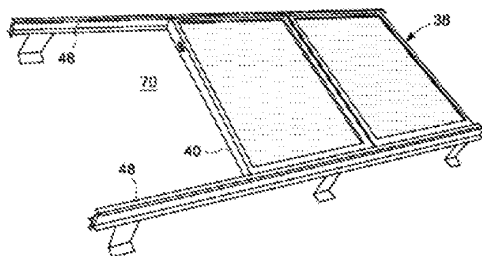


FIG. 5

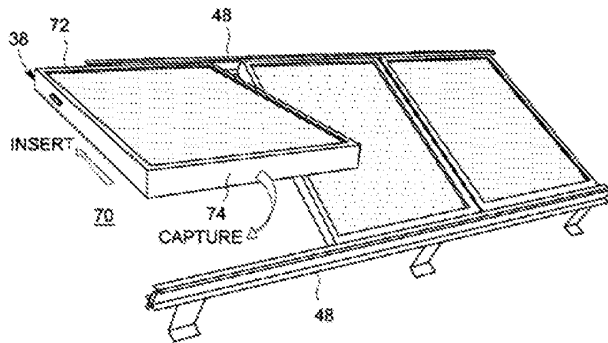


FIG. 6

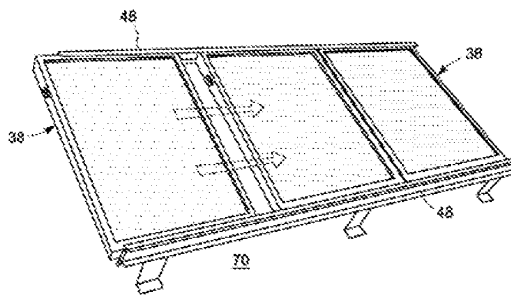


FIG. 7

The male/female coupling is shown in more detail in Figures 9 and 10, below.

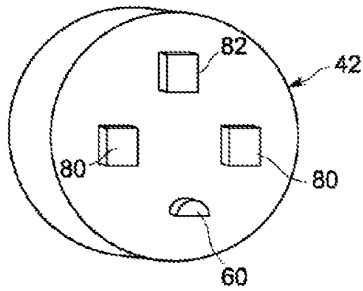


FIG. 9

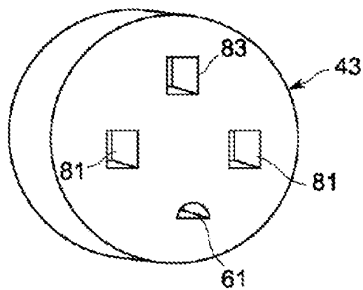


FIG. 10

Korman elements 42 and 43 are identified as “a male ac-voltage plug and play connector 42 and a female ac-voltage plug and play connector 43.” Colloquially, these elements would be identified as a plug and a socket. *Korman* element 60 is a subcomponent of “male ac-voltage plug and play connector 42.”

Korman initially describes element 60 as “a dc ground conductor pin 60.” Para [0031]. The “pin 60” is shown in Figure 9, above. *Korman* subsequently describes element 60 as “the dc grounding conductor path 60.” Para [0035]. The “path” is shown in Figures 3 and 4, below.

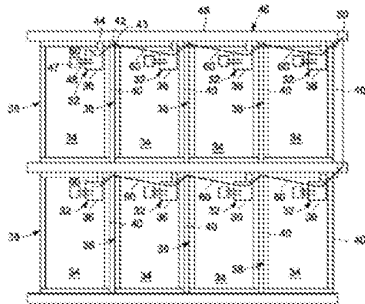


FIG. 3

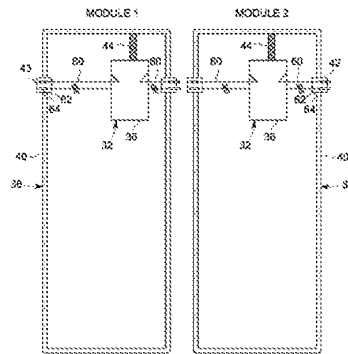


FIG. 4

Figure 3 is not described as a “view,” *e.g.*, a “top view” or “front view,” of the *Korman* system, but rather as “Fig. 3 illustrates a PV ac-voltage module grounding system.” Figure 4 is described as a “diagram.” It is not within Appellants’ power to clarify whether *Korman* element 60 is a “pin” or a “path.” Appellants note, however, that *Korman* element 60 is never described as a “tension member,” “cable,” “wire,” or any similar construct.

Thus, in the present application, a “multi-function line” is specifically defined as being a tension member that supports current wires and/or cable hangers, and, which is conductive. Under MPEP §2111 IV the Examiner must interpret the claim term “multi-function line” according to the special definition. Further, *Korman* element 60 is never described as a “tension member,” “cable,” “wire,” or any similar construct. Thus, *Korman* element 60 cannot be a “multi-function line.”

In the Final Office Action, the Examiner states, “*Korman et al* disclose a multi-function line assembly (60, 42, 43) including a multi-function line (60).” This is the only assertion by the Examiner that *Korman* discloses a “multi-function line.” As noted above, however, *Korman* states that element 60 is either a dc ground conductor pin or a dc grounding conductor path. Neither a “pin” nor a “path” is a tension member. In the Response to Argument, the Examiner further states, “the weight of a line 60 (mass + gravity) creates weight force which is pulling down on the line between connectors 42, 43 and this forms a tension line.” Elements 42 and 43 are shown again below.

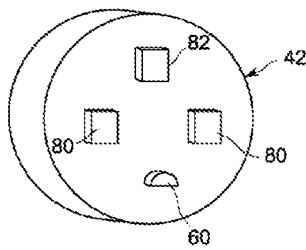


FIG. 9

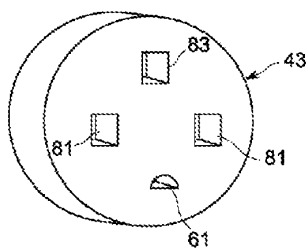


FIG. 10

These elements are a plug and socket. As is well known, these two elements are brought together so that the protrusions of the plug 42, such as pin 60, are inserted into the apertures of the socket, such as dc ground conductor slot 61. In this configuration, there is, essentially, no distance between elements 42 and 43. Thus, it is unclear why the Examiner believes that there is a “weight force which is pulling down on the [pin 60] between connectors 42, 43.” Further, “pin 60” is a rigid construct. Given that there is virtually no distance between elements 42 and 43 and that pin 60 is rigid, the Examiner’s statement that “(mass + gravity) creates weight force which is pulling down on the line between connectors 42, 43” makes no sense.

As near as Appellants understand the Examiner’s statement, the Examiner appears to believe that the elongated path 60 shown in Figures 3 and 4 represents a cable or wire. There is no basis for the Examiner to believe this. That is, if one were to only look at the figures, one may be under the impression that element 60 is a cable or wire. On the other hand, if one actually reads *Korman*, it is evident that element 60 is a cable or wire. This fact is disclosed in paragraphs [0029]-[0035]. Rather than reciting the entirety of these paragraphs, Appellants note the following highlights:

- The present inventors alone recognized that the equipment ground which also serves to ground the case can be accomplished by including a grounding pin in the ac cable

recognizing that a four pin cable would be sufficient. ... Use of such a structure would advantageously **allow exposed metal frames and rail to be grounded using the same pin by providing suitable connections**. Para [0029], emphasis added.

- Each micro-inverter 32 is **internally connected** to a respective chassis ground or case 36 described in further detail herein with respect to FIG. 4. Para [0030], emphasis added.
- Each ac-voltage module 38 comprises a metallic enclosure or case 40 that includes a male ac-voltage plug and play connector 42 and a female ac-voltage plug and play connector 43. Para [0030].
- Each plug and play connector dc ground conductor 60 is electrically connected internal to its corresponding micro-inverter 32 to a respective micro-inverter chassis/ground which may be, for example, the micro-inverter case 36. Para [0031].
- The metal case 36 of each micro-inverter 32 is mechanically and electrically attached to the metallic frame 40 of a corresponding ac-voltage module 38 **via, for example, a metallic frame attachment bracket 44** Para [0032], emphasis added.
- Since each micro-inverter case 36 is also electrically coupled to the metallic frame 40 of its corresponding ac-voltage module 38, the ground pin in each of the plug and play connectors 42, 43 automatically grounds all of the module frames 40 that are interconnected through the plug and play connectors 42, 43. Para [0033].
- A frame structure 46 comprising a metallic grounding rail 48 is configured to receive the plurality of ac-voltage modules 38 such that the plurality of ac-power plug and play connectors 42, 43 together carry a dc-voltage ground connection 60 from ac-voltage module 38 to ac-voltage module 38 through the plurality of ac-voltage modules **via the plurality of plug and play connector dc-voltage ground conductors**. Para [0034], emphasis added.
- Since each micro-inverter case 36 is electrically coupled to the metallic frame 40 of its corresponding ac-voltage module 38, the ground pins in the plug and play power connectors 42, 43 automatically ground all of the module frames 40 via grounding path 60 when all of the ac-voltage modules 38 are installed into a frame structure such as illustrated in FIG. 3. Para [0035].

Thus, the text of *Korman* details how the rigid elements such as the micro-inverter case 36, the plug and play connectors 42, 43, and the metallic grounding rail 48 form a grounding path. None of these elements are a cable or rope-like construct. Rather, each of these elements is described as a rigid construct. Moreover, no element identified in *Korman* is described as a tension member.

As another possibility, the Examiner may have observed the elongated mark in Figures 3 and 4 and assumed that such an elongated mark *must be* a cable, wire or other tension member.

Appellants respectfully disagree. As set forth in MPEP § 2112:

The fact that a certain result or characteristic **may occur** or be present in the prior art **is not sufficient to establish the inherency of that result or characteristic**. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

Nothing in *Korman* discloses that element 60 is a tension member. To the extent that the Examiner believes that an elongated mark in a figure must be a cable, the Examiner is asserting a mere possibility. A "mere possibility," however, is insufficient to establish the inherency of such a characteristic. Moreover, *Korman* states that element 60 is one of a "pin" or a "path," either of which could be represented by an elongated mark. As such, it is unclear why the Examiner believe this elongated mark represents a tension member. Accordingly, *Korman* does not disclose a tension member.

Thus, Claim 1 recites a "multi-function line" which is specifically defined as "a tension member that supports current wires and/or cable hangers, and, which is conductive." As detailed above, *Korman* does not disclose a tension member. As *Korman* does not disclose a tension member, *Korman* cannot disclose a "multi-function line" as defined in the present application. Further, for the Examiner to assert that the rigid elements disclosed in *Korman* anticipate a "multi-function line" means that the Examiner is either ignoring the special definition or is interpreting the term in an overly broad manner.

Further, assuming for the sake of argument only, that *Korman* element 60 is a tension member, *Korman* element 60 is still not a "multi-function line" as defined in the present application. That is, even assuming that the elongated mark representing the "dc grounding conductor path 60" is a "tension member," the "dc grounding conductor path 60" does not support "current wires and/or cable hangers." That is, *Korman* does not disclose any cable

hangers, so *Korman* element 60 cannot be a “multi-function line” based on supporting cable hangers. As such, the Examiner appears to be asserting that *Korman* element 60 is a “multi-function line” because it supports “wires.” The problem with this interpretation is that *Korman* does not disclose any wires. That is, as noted above, the text of *Korman* discloses a series of rigid components structured to conduct electricity; none of these elements are wires. Thus, and still assuming that the elongated mark representing the “dc grounding conductor path 60” is a “tension member,” the only wire-like element disclosed by *Korman* is the “dc grounding conductor path 60.” In this configuration, the “dc grounding conductor path 60” does not support any “current wires and/or cable hangers.” That is, the “dc grounding conductor path 60” is simply a conductor. As further stated in the definition of the term “multi-function line,” “a conductor that does not support other constructs is not a ‘multi-function line.’” Thus, even if one were to assume that *Korman* element 60 is a tension member, *Korman* element 60 is still not a “multi-function line” as defined in the present application.

Anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention. *RCA Corp. v. Applied Digital Data Sys., Inc.*, 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984). In other words, there must be no difference between the claimed invention and the referenced disclosure, as viewed by a person of ordinary skill in the field of the invention. *Scripps Clinic & Research Found. v. Genentech Inc.*, 927 F.2d 1565, 1576, 18 USPQ2d 1001, 1010 (Fed. Cir. 1991). As stated in MPEP §2131:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference....
The **identical** invention must be shown in as complete detail as is contained in the ... claim.

Verdigaal Brothers v. Union Oil Company of California, 814 F.2d 628, 631 (Fed. Cir. 1987) (emphasis added) and *Richardson v. Suzuki Motor Company*, 868 F.2d 1226, 1236, (Fed. Cir. 1989).

For the reasons set forth above, *Korman* fails to disclose a “multi-function line.” As *Korman* does not disclose a “multi-function line,” *Korman* cannot disclose a grounding system that is “identical” to the grounding system recited in Claim 1. Accordingly, the rejection of Claim 1 should be reversed.

In the Response to Arguments, the Examiner states, “It is noted that the features upon which applicant relies (i.e., that supports current wires and/or cable hanger and which is conductive) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).” As Appellants have noted, however, MPEP §2111 IV states, “An Appellant is entitled to be his or her own lexicographer and may rebut the presumption that claim terms are to be given their ordinary and customary meaning by clearly setting forth a definition of the term that is different from its ordinary and customary meaning(s). ... Where an explicit definition is provided by the Appellant for a term, that definition will control interpretation of the term as it is used in the claim.” Thus, the Examiner’s statement begs the question, “how does the Examiner interpret the term ‘multi-function line’?”

In order to clearly present this issue for Appeal, Appellants asked the Examiner to fill in the blanks in the following statement, “According to the Examiner, a ‘multi-function line’ is interpreted as meaning _____ and this element is disclosed in *Korman* by element _____.” The Examiner declined to fill in the blanks thereby clarifying this issue. As such, Appellants respectfully repeat the request for the sake of the Board and so that Appellants can respond to the Examiner’s assertion that Appellants are reading the specification into the claims.

Claim 2 depends from Claim 1 and recites “a number of multi-function line couplings.” Appellants note that the Examiner does not identify any specific element in *Korman* as a “multi-function line coupling.” That is, the Examiner identifies *Korman* elements 36 and 44 as “a mounting body” and a “support coupling,” respectively, but does not identify a “multi-function line coupling.” The Examiner has interpreted the term “multi-function line coupling” in an overly broad manner.

As noted above, the Court of Appeals for the Federal Circuit has recently addressed the issue of claim term interpretation in, *In re: Smith International, Inc.*, Fed. Cir. 2016-2303, Decided: September 26, 2017. In *Smith*, the court held that broad terms, such as “body,” cannot be interpreted in a manner that is inconsistent with the specification’s description of the “body.” Such a construction of a claim term is not reading the specification into the claims, but rather is interpreting the claim terms in view of the specification.

The present specification does not define the term “multi-function line coupling.” The term, however, consists of a noun adjunct (a noun used as an adjective) that modifies a noun. That is, the term “multi-function line” modifies the term “coupling.” It is understood that in this format, the noun adjunct identifies the type of coupling. For example, in the term “electrical coupling,” the term “electrical” is a noun adjunct that modifies the term “coupling” and identifies the type of coupling, *i.e.* a coupling for an electrical component. Similarly, a “multi-function line coupling” is a coupling for a “multi-function line.” That is, as stated in the present specification, “each multi-function line coupling 66 is structured to, and does, couple, directly couple, temporarily couple, or fix the multi-function line 35 to the mounting body 62.” Page 15, lines 10-12.

As noted above, the term “multi-function line” is a defined term. Moreover, as noted above, *Korman* does not disclose a “multi-function line.” As such, *Korman* cannot disclose a “multi-function line coupling.” That is, under *Smith*, it is improper to identify a random member as a “body” when the term “body” has a meaning in the specification. Similarly, it is improper to identify any coupling as a “multi-function line coupling” when that term has a meaning in the present specification. As *Korman* does not disclose a “multi-function line,” *Korman* cannot disclose a “multi-function line coupling.” Further, it is improper under *Smith* to simply assert that any coupling is a “multi-function line coupling” as that term is used in the present specification.

Thus, *Korman* does not disclose a “multi-function line coupling” and therefore cannot disclose a grounding system that is “identical” to the grounding system recited in Claim 2. Accordingly, the rejection of Claim 2 should be reversed.

Further, the finality of the rejection of Claim 2 is in error. That is, this rejection appeared in the first Office Action and Appellants presented an argument similar to the one above establishing that the rejection was substantively improper. The Examiner did not respond to Appellant’s initial argument in the Final Office Action, but did repeat the rejection. MPEP §707.07(f) states, “Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant’s argument and answer the substance of it.” Thus, in the Final Office Action, the Examiner repeated the rejection of Claim 2, but did not “answer the substance” of Appellant’s argument. Accordingly, the rejection of Claim 2 is also procedurally improper and should be reversed.

Claims 3-5 rely on their dependency for patentability.

Claim 8 depends from Claim 2 and recites that the multi-function line couplings are spaced by “one of a first effective distance, a second effective distance, or a third effective distance.” Each of the “first effective distance,” “second effective distance,” and “third effective distance” are defined terms. The specification provides:

As used herein, a “first effective distance” means between less than one foot to about one hundred feet apart. As used herein, a “second effective distance” means between one foot and about fifty feet apart. As used herein, a “third effective distance” means between about five feet and about thirty feet apart.

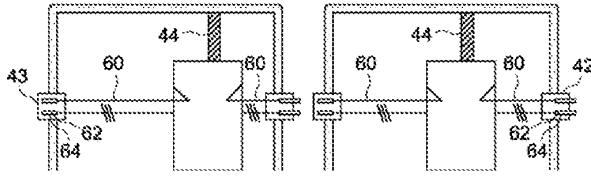
Page 16, lines 2-6. *Korman* does not disclose a plurality of multi-function line couplings spaced by distances according to the defined terms. As *Korman* does not disclose a “multi-function line coupling” as that term is used in the present specification and/or the defined spacing, *Korman* cannot disclose a grounding system that is “identical” to the grounding system recited in Claim 8. Accordingly, the rejection of Claim 8 should be reversed.

Claims 9-11 rely on their dependency for patentability.

Claim 13 recites “wherein said multi-function line assembly includes a conductive terminal support.” The term “conductive terminal support” is a defined term. The specification provides, “As used herein, a ‘conductive terminal support’ 44 is structured to couple a multi-function line 35 to a support, **draw the multi-function line 35 taut**, and provide a current path between the multi-function line 35 and the support.” Page 10, lines 17-20, emphasis added. That is, a construct that lacks the structure to “draw the multi-function line 35 taut” cannot be a “conductive terminal support” as that term is defined in the present specification.

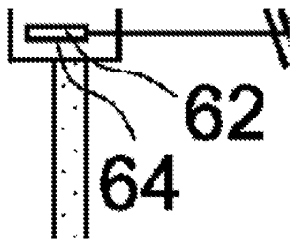
In the initial Office Action, the Examiner asserted that *Korman* elements 42 and 43 are a “conductive terminal support,” *i.e.*, these elements are structured to draw a -function line taut. As shown in Figures 9 and 10, above, *Korman* elements 42 and 43 are similar to the ends of an extension cord, *i.e.*, a plug and a socket. The plug/socket couplings are not “structured to ... draw the multi-function line 35 taut...” In the Final Office Action, the Examiner changed the rejection to assert that *Korman* elements 62 and 64, rather than *Korman* elements 42 and 43, are a “conductive terminal support.” Appellants still disagree.

Korman elements 62 and 64 are described as “ac-voltage pins 62 and a neutral grounding pin 64.” This is the only mention of these elements in all of *Korman*. The elements are shown in Figure 4, reproduced in part below.



With respect, Appellants are still confused by the Examiner's assertion. That is, Appellants do not understand how "pins" are structured to "draw the multi-function line 35 taut." Thus, Appellants again request that the Examiner provide an explanation in the Answer. That is, Appellants request that the Examiner complete the following sentence: The mechanism by which the ac-voltage pin[s] 62 and a neutral grounding pin 64 draw the multi-function line taut is

Appellants respectfully remind the Examiner that the only information provided by *Korman* regarding elements 62 and 64 is that the elements are "pins." Further, the Figures show the elements as:



Appellants further respectfully request that the Examiner does not assume anything beyond what is actually disclosed in *Korman* when providing the answer requested above.

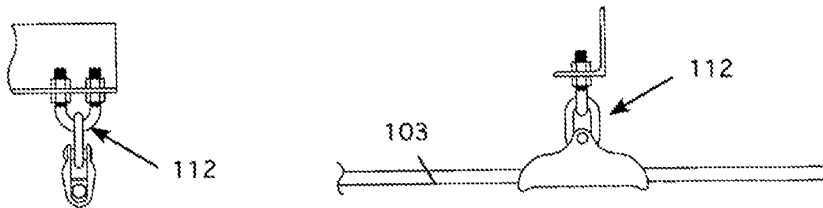
Appellants note that if the Examiner is not able to adequately explain how "ac-voltage pins 62 and a neutral grounding pin 64" are able to draw a multi-function line taut, then the Examiner is admitting that *Korman* elements 62 and 64 are not a "conductive terminal support" as that term is defined in the present specification. If *Korman* does not disclose a "conductive terminal support," then *Korman* cannot disclose a grounding system that is "identical" to the grounding system recited in Claim 13 and the rejection of Claim 13 should be reversed.

The argument with respect to Claim 1 is also applicable to Claim 15.

Based on the comments above, the rejection of Claims 1-5, 8-11, 13 and 15 under 35 U.S.C. § 102(a)(2) should be reversed.

Claims 6 and 7; Rejected under 35 U.S.C. § 103

Claims 6 and 7 are rejected under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Peabody* (U.S. Patent No. 7,057,103). *Korman* is discussed above. *Peabody* discloses a device for reducing a shock load having a longitudinal direction along a power line coupled through an insulator to a crossarm of a transmission tower, comprising: a rotary damper coupled between the insulator and the crossarm for rotating by the insulator in the longitudinal direction in response to the shock load, the damper having an axle to which the insulator is rotatably coupled; and, a torsion bar coupled at a first end to the axle and at a second end to the crossarm for resisting rotation of the insulator, whereby at least a portion of the shock load is absorbed. The Examiner focuses on Figures 4 and 5 which disclose a “shield wire suspension assembly” or “suspension clamp 112” shown below.



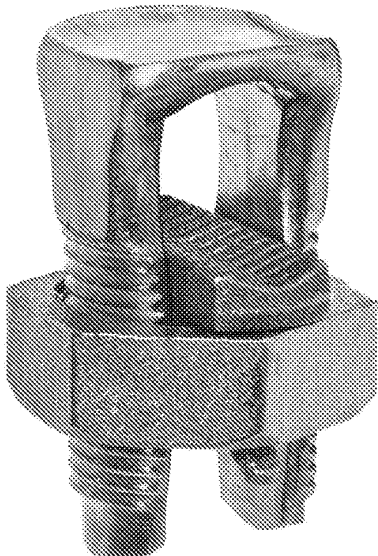
Claim 6 recites, “wherein each said multi-function line coupling is a clamping assembly.” The term “clamping assembly” is a defined term. That is, the specification provides, “[a]s used herein, a ‘clamping assembly’ includes two elements acting in concert, *i.e.*, together, as well as a bias device such as, but not limited to, a spring or a threaded rod.” Appellants note that the “shield wire suspension assembly” includes a cradle that supports a cable. The cradle has a generally U-shaped cross-section. There is no indication that the cradle is compressed so as to provide bias against the cable. For example, the distal ends of the U-shaped cradle are not coupled to the chain link by a threaded rod. Accordingly, there is no indication that the shield wire suspension assembly is a “clamping assembly” as that term is defined in the present specification. That is, *Peabody* does not disclose an assembly that applies bias to the cable. As none of the cited art discloses a “clamping assembly” as that term is defined in the present

specification, no combination of these references can teach or suggest the grounding system recited in Claim 6.

Claim 7 recites each said multi-function line coupling includes one of a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly. The terms “clam-shell,” “split bolt,” “U-bolt,” and “lay-in lug assembly” are not defined in the present application. These types of couplings, however, are well known. The shield wire suspension assembly disclosed in *Peabody* is not any of a “clam-shell,” “split bolt,” “U-bolt,” or “lay-in lug assembly.”

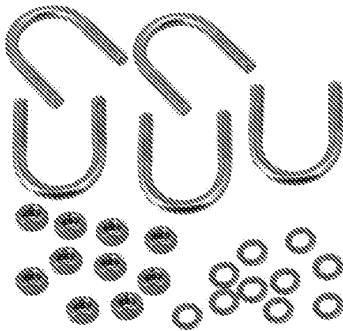
That is, a “clam-shell” includes two elements coupled at a pivot, *i.e.*, like a clam. See Google Dictionary which provides, “a thing with hinged parts that open and shut in a manner resembling the parts of a clamshell.” *Id.* at <https://www.google.com/search?q=define%3Aclam-shell&oq=define%3Aclam-shell&aqs=chrome.69i57j69i58.6750j0j8&sourceid=chrome&ie=UTF-8>. Attached as Evidence Appendix, Exhibit 1. The shield wire suspension assembly disclosed in *Peabody* does not include two elements coupled by a hinge.

A “split bolt” is a bolt having a longitudinal channel cut in the shaft. For example, a search of Amazon.com discloses many split bolts including the Morris Products 90324 Split Bolt Connector, shown below, and which is found at https://smile.amazon.com/Morris-Products-90324-Connector-Conductors/dp/B01CF33IHQ/ref=sr_1_7?ie=UTF8&qid=1521661144&sr=8-7&keywords=split+bolt.



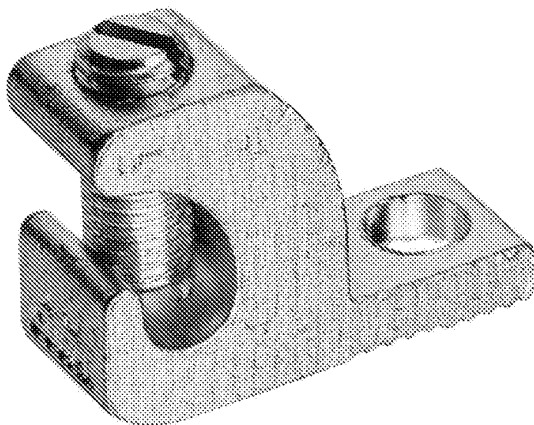
Peabody does not disclose a “split bolt.”

A “U-bolt” is a U-shaped rod with two threaded ends. “U-bolts” are easily located on Amazon.com such as the U-bolts shown below which are found at https://smile.amazon.com/Stainless-Steel-Bolts-Screws-Pack/dp/B010PZS5H4/ref=sr_1_14?s=industrial&ie=UTF8&qid=1521661323&sr=1-14&keywords=U-bolt.



Peabody does not disclose a “U-bolt.”

Finally, a “lay-in lug” includes a base defining a C-shaped portion that defines a threaded opening and a channel for a cable. While less well known than the couplings discussed above, lay-in lugs are also common and can be found on Amazon.com. *See e.g.*, the Thomas & Betts BG LL414 LAY IN LUG shown below and found at https://smile.amazon.com/Thomas-Betts-LL414-LAY-Pack/dp/B008KM5AFA/ref=sr_1_4?s=industrial&ie=UTF8&qid=1521661431&sr=1-4&keywords=lay-in+lug&dpID=51LsrzXyYLL&preST=_SX342_QL70_&dpSrc=srch.



Moreover, each of the couplings as described above are shown in the figures of the present application. That is, Appellant's interpretation of the terms "clam-shell," "split bolt," "U-bolt," or "lay-in lug assembly" is based on the specification and external sources. The Examiner has not shown that any construct in *Peabody* discloses any of the couplings discussed above. As none of the cited art discloses a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly as those terms are used in the present specification, no combination of these references can teach or suggest the grounding system recited in Claim 7.

Further, the finality of the rejection of Claims 6 and 7 is in error. That is, this rejection appeared in the first Office Action and Appellants presented an argument similar to the one above establishing that the rejection was substantively improper. The Examiner did not respond to Appellants' initial argument in the Final Office Action, but did repeat the rejection. MPEP §707.07(f) states, "Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it." Thus, in the Final Office Action, the Examiner repeated the rejection of Claims 6 and 7, but did not "answer the substance" of Appellants' argument. Accordingly, the rejection of Claims 6 and 7 is also procedurally improper and should be reversed.

In view of the comments above, the rejections of Claims 6 and 7 under 35 U.S.C. § 103 should be reversed.

Claims 12, 14 and 16-19: Rejected under 35 U.S.C. § 103

Claims 12, 14 and 16-19 are rejected under 35 U.S.C. § 103 as being unpatentable over *Korman et al.* (U.S. Patent Publication No. 2012/0024563) in view of *Hanson et al.* (U.S. Patent Publication No. 2013/0244505). *Korman* is discussed above. *Hanson* discloses a compression terminal comprising an electrical terminal member, the electrical terminal member configured to receive a stranded wire having a protective outer jacket surrounding a strand bundle, a fastener member including a first inner bore having a first diameter and a second inner bore having a second diameter, the second diameter being less than the first diameter, wherein an internally tapered wall separates the first inner bore from the second inner bore, wherein, when the fastener member is axially slidably compressed from a first position to a second position, the fastener member is configured to compress a portion of the electrical terminal member against the stranded wire.

With respect, the rejection of Claims 12, 14 and 16-19 is unclear. The initial paragraph is a sentence fragment reading, “wherein said multi-function line assembly made of copper [0004].” This sentence fragment is not tied to any specific claim. Appellants believe that this sentence fragment is related to Claim 12 and the subsequent discussion of *Hanson*. That is, the Examiner notes that *Korman* does not disclose “strands.” The Examiner further states that *Korman* and *Hanson* would be combined for “enhancing flexibility.” Appellants respectfully disagree.

It is well known that a cable, *i.e.*, a bundle of strands/wires, is less flexible than a single strand/wire. That is, no known material becomes more flexible when the amount of the material is increased. For example, a wire with a 0.1 mm diameter is more flexible than a wire made from the same material but with a 0.2 mm diameter. Similarly, twisting strands/wires into a cable increases their collective stiffness. Thus, the reason for the proposed combination of *Korman* and *Hanson* is not valid. That is, if the single *Korman* wire was combined with other strands and formed into a cable as in *Hanson*, the resulting construct would be less flexible relative to the single wire. Accordingly, reason for the proposed combination is not supported and the rejection of Claim 12 should be reversed.

Claims 14 and 16 rely upon their dependency for patentability.

Claim 17 recites that the “multi-function line assembly does not include any grounding splices.” The term “grounding splice” is not specifically defined, but the use thereof is discussed in detail. That is, the specification notes that, in the prior art, a messenger wire was disposed adjacent a “grounding conductor.” In that configuration, the messenger wire supported other elements and the grounding conductor was coupled to a “grounding splice” to provide a current path to ground. Thus, a “grounding splice” is a separate path to ground from a support line. As *Korman* fails to disclose a “multi-function line assembly” or any other support line, *Korman* cannot disclose the lack of a grounding splice therefrom. This argument also applies to Claim 18.

Claim 19 relies upon its dependency for patentability.

Further, the finality of the rejection of Claims 12, 14 and 16-19 is in error. That is, this rejection appeared in the first Office Action and Appellants presented an argument similar to the one above establishing that the rejection was substantively improper. The Examiner did not respond to Appellants’ initial argument in the Final Office Action, but did repeat the rejection.

MPEP §707.07(f) states, “Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant’s argument and answer the substance of it.” Thus, in the Final Office Action, the Examiner repeated the rejection of Claims 12, 14 and 16-19 , but did not “answer the substance” of Appellants’ argument. Accordingly, the rejection of Claims 12, 14 and 16-19 is also procedurally improper and should be reversed.

In view of the comments above, the rejections of Claims 12, 14 and 16-19 under 35 U.S.C. § 103 should be reversed.

Conclusion

It is submitted that Claims 1-19 are patentable over the prior art. Therefore, it is requested that the Board reverse the Examiner's rejections of Claims 1-19 and remand the application to the Examiner for the issuance of a Notice of Allowance.

Respectfully submitted,

/David C. Jenkins/

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APPENDIX 1 - CLAIM APPENDIX

1. A grounding system structured to ground a number of cables supported by a support assembly, said support assembly including a plurality of spaced, conductive piles, said grounding system comprising:

a multi-function line assembly including a multi-function line;

a number of conductive mounting assemblies, each said conductive mounting assembly structured to be coupled to said multi-function line and to a conductive pile; and

wherein said multi-function line assembly is coupled to, and in electrical communication with, said number of conductive mounting assemblies.

2. The grounding system of Claim 1 wherein:

each said conductive mounting assembly includes a mounting body, a support coupling, and a number of multi-function line couplings; and

each said multi-function line coupling defines a conductive path.

3. The grounding system of Claim 2 wherein each said mounting body is one of a conductive body or a conductive body assembly.

4. The grounding system of Claim 2 wherein:

each said mounting body is a conductive body; and

each said mounting body conductive body is a partially conductive body.

5. The grounding system of Claim 3 wherein each said mounting body has a simplified shape.
6. The grounding system of Claim 2 wherein each said multi-function line coupling is a clamping assembly.
7. The grounding system of Claim 6 wherein each said multi-function line coupling includes one of a clam-shell assembly, a split bolt, a U-bolt, or a lay-in lug assembly.
8. The grounding system of Claim 2 wherein:
said number of multi-function line couplings includes a plurality of multi-function line couplings; and
each said multi-function line coupling spaced one of a first effective distance, a second effective distance, or a third effective distance from another multi-function line coupling.
9. The grounding system of Claim 1 wherein said multi-function line assembly does not include any grounding splices.
10. The grounding system of Claim 1 wherein said multi-function line assembly does not include any medial grounding splices.
11. The grounding system of Claim 1 wherein said multi-function line includes one of a highly conductive body or a partially conductive body.

12. The grounding system of Claim 1 wherein said multi-function line includes strands selected from the group consisting of: copper strands, copper-clad steel strands, galvanized strands, conductive alloy strands, partially conductive, alloy strands, or composite strands.

13. The grounding system of Claim 1 wherein said multi-function line assembly includes a conductive terminal support.

14. The grounding system of Claim 12 wherein said multi-function line assembly terminal support includes a conductive thimble-eye.

15. A grounding system comprising a multi-function line.

16. The grounding system of Claim 14 wherein said multi-function line is structured to be operational with solar electrical equipment.

17. The grounding system of Claim 14 wherein said multi-function line assembly does not include any grounding splices.

18. The grounding system of Claim 14 wherein said multi-function line assembly does not include any medial grounding splices.

19. The grounding system of Claim 14 wherein said multi-function line includes one of a highly conductive body or a partially conductive body.

APPENDIX 2 - EVIDENCE APPENDIX

Exhibit 1 – Definition of “Clam-Shell,”

<https://www.google.com/search?q=define%3Aclam-shell&oq=define%3Aclam-shell&aqs=chrome..69i57j69i58.6750j0j8&sourceid=chrome&ie=UTF-8>, submitted May 31, 2018, in response to the Final Office Action of May 17, 2018.

APPENDIX 3 - RELATED PROCEEDINGS APPENDIX

None.

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Dictionary

Enter a word, e.g. "pie" Q

clam·shell
 /ˈklam,SHel/

noun
 noun: clam-shell

- the shell of a clam, formed of two roughly equal valves with a hinge.
- a thing with hinged parts that open and shut in a manner resembling the parts of a clamshell, such as a kind of mechanical digger, a portable computer, or a box for takeout food.
 "some clamshells offer full desktop power"

Translations, word origin, and more definitions Feedback

Clamshell - Wikipedia
<https://en.wikipedia.org/wiki/Clamshell> ▼
 Clamshell may refer to: Bivalve shell, the shell of a clam; Scoop stretcher, another name for this patient transport device; Clamshell design, a form factor used for ...

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Videos

Hip External Rotation Clamshell Exercise - Mike Reinold Mike Reinold.com YouTube · Mar 25, 2017	The correct way to do clamshell, Clamshell exercise, Hip mobility ... Sarah Felders YouTube · Aug 16, 2016	How To Do The Clamshell Exercise - Kinetic Sports Rehab Tangelo Manual Therapy YouTube · Jul 15, 2015

Clamshell (container) - Wikipedia
[https://en.wikipedia.org/wiki/Clamshell_\(container\)](https://en.wikipedia.org/wiki/Clamshell_(container)) ▼
 A clamshell is a one-piece container consisting of two halves joined by a hinge area which allows the structure to come together to close. Clamshells are often ...
 Construction · Closing

Urban Dictionary: Clamshell
<https://www.urbandictionary.com/define.php?term=Clamshell> ▼
 Clamshell This is when a girl thinks she is being nice by giving you a hand job, but actually hurts you by placing her finger up and down on the head of the ...

Clamshell | Definition of Clamshell by Merriam-Webster<https://www.merriam-webster.com/dictionary/clamshell> ▼

Fruit included in the recall was sold in clear plastic clamshell containers at Trader Joe's, Costco, Jay C, Walgreens, Walmart, Kroger, Payless, Whole ...

Clam Shells | eBay<https://www.ebay.com> › ... › Collectible Shells › Clam Shells ▼

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clamshell - Wiktionary<https://en.wiktionary.org/wiki/clamshell> ▼

A dredging bucket with hinges like the shell of a clam. In foodservice, the white, usually styrofoam box given to consumers with take-out food. Any object that has ...

Clamshell | Define Clamshell at Dictionary.comwww.dictionary.com/browse/clamshell ▼

the shell of a clam, an object that has two hinged parts and that opens and closes like a clamshell, as a laptop computer or a box with a cover joined on one side: ...

Clamshell Exercise: Should I Try It? - Healthline<https://www.healthline.com/health/fitness-exercise/the-clamshell-exercise> ▼

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Electronic Acknowledgement Receipt

EFS ID:	33161665
Application Number:	15725668
International Application Number:	
Confirmation Number:	2706
Title of Invention:	GROUNDING SYSTEM
First Named Inventor/Applicant Name:	ALLEN GARRETT SMITH
Customer Number:	3705
Filer:	David C. Jenkins/JANICE JENE
Filer Authorized By:	David C. Jenkins
Attorney Docket Number:	308329-00021
Receipt Date:	12-JUL-2018
Filing Date:	05-OCT-2017
Time Stamp:	14:51:55
Application Type:	Utility under 35 USC 111(a)

Payment information:

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File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Appeal Brief Filed	308329-00021APPEALBRIEF.pdf	21572660	no	34
			117824ab0ec3f557a7f4c5350e67591d3a210d0a		
Warnings:					

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2	Affidavit/Dec/Exhibit after Notice of Appeal	308329-00021EXHIBIT1.pdf	105708	no	2
			b4394e3bbac23fa2aafa738c58bfc8acd34c7e90		
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U.S. Steel Tower
600 Grant Street, 44th Floor
Pittsburgh, PA 15219
UNITED STATES OF AMERICA

EXAMINER

NGO, HUNG V

ART UNIT

PAPER NUMBER

2847

DATE MAILED: 10/24/2018

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/725,668	10/05/2017	ALLEN GARRETT SMITH	308329-00021	2706

TITLE OF INVENTION: GROUNDING SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0	\$0	\$500	01/24/2019

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

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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)".

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/725,668	10/05/2017	ALLEN GARRETT SMITH	308329-00021	2706

TITLE OF INVENTION: GROUNDING SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0	\$0	\$500	01/24/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
NGO, HUNG V	2847	174-07000R

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).

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.
15/725,668	10/05/2017	ALLEN GARRETT SMITH	308329-00021	2706
3705 7590 10/24/2018 ECKERT SEAMANS CHERIN & MELLOTT LLC U.S. Steel Tower 600 Grant Street, 44th Floor Pittsburgh, PA 15219 UNITED STATES OF AMERICA			EXAMINER NGO, HUNG V	
			ART UNIT 2847	PAPER NUMBER

DATE MAILED: 10/24/2018

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.

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. 15/725,668	Applicant(s) SMITH ET AL.	
	Examiner HUNG V. NGO	Art Unit 2847	AIA (First Inventor to File) Status Yes

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

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the appeal brief filed 7/12/2018.
☐ 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 1-14 and 16-20. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

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

Certified copies:
a) ☐ All b) ☐ Some *c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s) 1. ☐ 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 _____	

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

DETAILED ACTION

Election/Restrictions

Claim 20 is allowable. The restriction requirement between group I and group II, as set forth in the Office action mailed on 5/17/2018, has been reconsidered in view of the allowability of claims to the elected invention pursuant to MPEP § 821.04(a). **The restriction requirement is hereby withdrawn.** In view of the above noted withdrawal of the restriction requirement, applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Drawings

The drawings were received on 3/22/2018. These drawings are acceptable.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in an interview with David Jenkins on 10/9/2018.

The application has been amended as follows:

Cancel claim 15.

The following is an examiner's statement of reasons for allowance:

The limitation "each said conductive mounting assembly structured to be coupled to said multi-function line and to a conductive pile; and wherein said multi-function line assembly is coupled to, and in electrical communication with, said number of conductive mounting assemblies" of claim 1, "each said support coupling structured to be coupled to a conductive pile; and wherein, when said multi-function line assembly is coupled to, and in electrical communication with said multi-function line couplings, each said multi-function line coupling defines a conductive path" of claim 20 in combination with other limitations present is neither taught nor disclosed in the prior art of record.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung V. Ngo whose telephone number is (571) 272-1979. The examiner can normally be reached on Monday to Friday 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thompson can be reached on (571) 272-2342. 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.

/Hung V Ngo/
Primary Examiner, Art Unit 2847

Application/Control Number: 15/725,668
Art Unit: 2847

Page 5

EAST Search History**EAST Search History (Interference)**

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L3	0	(H02G7/053 or h02g7/22).cpc. and (multi-function line conductive mounting assemblies coupled conductive pile electrical communication).clm.	US-PGPUB; USPAT	AND	ON	2018/10/11 14:04

10/ 11/ 2018 2:06:04 PM

Issue Classification 	Application/Control No. 15725668	Applicant(s)/Patent Under Reexamination SMITH ET AL.	
	Examiner HUNG V NGO	Art Unit 2847	

CPC					
Symbol				Type	Version
H02G	7	22		F	2013-01-01
H01R	4	34		I	2013-01-01
H02S	40	36		A	2014-12-01
H01R	11	12		A	2013-01-01
H01R	11	26		A	2013-01-01
H02G	7	053		I	2013-01-01

CPC Combination Sets						
Symbol			Type	Set	Ranking	Version

NONE		Total Claims Allowed: 19	
(Assistant Examiner)	(Date)		
/HUNG V NGO/ Primary Examiner.Art Unit 2847	10/11/2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification 	Application/Control No. 15725668	Applicant(s)/Patent Under Reexamination SMITH ET AL.
	Examiner HUNG V NGO	Art Unit 2847

☐ 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	1	15	17												
2	2	16	18												
3	3	17	19												
5	4	19	20												
4	5														
6	6														
7	7														
8	8														
9	9														
10	10														
11	11														
12	12														
18	13														
13	14														
	15														
14	16														

NONE	Total Claims Allowed: 19	
(Assistant Examiner)	(Date)	
/HUNG V NGO/ Primary Examiner.Art Unit 2847	10/11/2018	O.G. Print Claim(s) 1
(Primary Examiner)	(Date)	O.G. Print Figure 1

Search Notes 	Application/Control No. 15725668	Applicant(s)/Patent Under Reexamination SMITH ET AL.
	Examiner HUNG V NGO	Art Unit 2847

CPC- SEARCHED		
Symbol	Date	Examiner
H02G7/22	10/11/2018	HVN
H02G 7/053	10/11/2018	HVN

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

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
Interference Search List		10/11/2018	HVN

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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)

3705 7590 10/24/2018
ECKERT SEAMANS CHERIN & MELLOTT LLC
U.S. Steel Tower
600 Grant Street, 44th Floor
Pittsburgh, PA 15219
UNITED STATES OF AMERICA

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.

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/725,668	10/05/2017	ALLEN GARRETT SMITH	308329-00021	2706

TITLE OF INVENTION: GROUNDING SYSTEM

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$500	\$0	\$0	\$500	01/24/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
NGO, HUNG V	2847	174-07000R

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 Eckert Seamans Cherin
& Mellott, LLC
2
3 David C. Jenkins

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

Cambria County Association for the Blind
and Handicapped

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

Johnstown, Pennsylvania

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 02-2556 (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 /David C. Jenkins/

Date 11-30-2018

Typed or printed name David C. Jenkins

Registration No. 42,691

Electronic Patent Application Fee Transmittal				
Application Number:		15725668		
Filing Date:		05-Oct-2017		
Title of Invention:		GROUNDING SYSTEM		
First Named Inventor/Applicant Name:		ALLEN GARRETT SMITH		
Filer:		David C. Jenkins/Helen McKay		
Attorney Docket Number:		308329-00021		
Filed as Small 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	2501	1	500	500

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				500

Electronic Acknowledgement Receipt	
EFS ID:	34450320
Application Number:	15725668
International Application Number:	
Confirmation Number:	2706
Title of Invention:	GROUNDING SYSTEM
First Named Inventor/Applicant Name:	ALLEN GARRETT SMITH
Customer Number:	3705
Filer:	David C. Jenkins/Helen McKay
Filer Authorized By:	David C. Jenkins
Attorney Docket Number:	308329-00021
Receipt Date:	30-NOV-2018
Filing Date:	05-OCT-2017
Time Stamp:	14:30:01
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 500
RAM confirmation Number	120318INTEFSW14310500
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	Issue Fee Payment (PTO-85B)	308329-00021-ISSUEFEE.pdf	152640	no	1
			c9e17784b8d646710243b36536f5360f1748fae3		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	29982	no	2
			28a4197e0e49a5dc19b20c30c399abac754bf646		
Warnings:					
Information:					
Total Files Size (in bytes):			182622		
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.					

Receipt date: 10/05/2017

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)

Approved for use through 07/31/2016. OMB 0651-0031

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

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

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	15/725,668 - GAU: 2847
	Filing Date	
	First Named Inventor	Allen Garrett Smith
	Art Unit	
	Examiner Name	
	Attorney Docket Number	308329-00021

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
/H.V.N/	1	9722405		2017-08-01	Smith, et al. Cambria County Association for the Blind...	

Change(s) applied to document

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

/S.J.W/

11/5/2018

U.S.PATENT APPLICATION PUBLICATIONS						
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

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

FOREIGN PATENT DOCUMENTS								
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²ⁱ	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							☐

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NON-PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵



UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/725,668	01/08/2019	10177551	308329-00021	2706

3705 7590 12/19/2018
ECKERT SEAMANS CHERIN & MELLOTT LLC
U.S. Steel Tower
600 Grant Street, 44th Floor
Pittsburgh, PA 15219

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):

ALLEN GARRETT SMITH, Johnstown, PA;
Cambria County Association for the Blind and Handicapped, Johnstown, PA;
Gregory Stephen Platt, Windber, PA;
Timothy Joseph Wedding, Johnstown, PA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

IR103 (Rev. 10/09)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	GROUNDING SYSTEM	
ALLEN GARRETT SMITH et al.	:	Confirmation No.	2706
Serial No.	:	Examiner:	HUNG V NGO
15/725,668	:	Art Unit:	2847
Filing Date:	:	Attorney Docket Number:	308329-00021
October 5, 2017	:		
U.S. Patent No.	:		
10,177,551 B1	:		
Issue Date	:		
January 8, 2019	:		

REQUEST FOR CERTIFICATE OF CORRECTION

Eckert Seamans Cherin & Mellott, LLC
U.S. Steel Tower
600 Grant Street, 44th Floor
Pittsburgh, Pennsylvania 15219
December 26, 2019

Attn: Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Sir:

In comparing the above-identified original patent document with the original papers filed in the Patent & Trademark Office, errors have been noted and are cited on the attached PTO/SB/44 form.

It is respectfully requested that a Certificate of Correction be issued to correct these errors in the above-identified patent at an early date.

The correction fee in the amount of \$150 will be charged to Eckert Seamans Cherin & Mellott, LLC's American Express Credit Card during the electronic transmission process.

Respectfully submitted,

/Arnold B. Silverman/

(412) 566-2077
E-mail: ipmail@eckertseamans.com

Arnold B. Silverman
Registration No. 22,614
Attorney for Applicant

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT NO. : 10,177,551B1

APPLICATION NO.: 15/725,668

ISSUE DATE : JANUARY 8, 2019

INVENTOR(S) : ALLEN GARRETT SMITH et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 5, line 64, "zero (00)" should read --zero (0°)--.

Column 8, line 28, "elements" should read --element--.

Column 9, line 34, "an do" should read --and do--.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Eckert Seamans Cherin & Mellott, LLC
U.S. Steel Tower - 600 Grant Street - 44th Fl.
Pittsburgh, PA 15219

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, 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.

Electronic Patent Application Fee Transmittal				
Application Number:		15725668		
Filing Date:		05-Oct-2017		
Title of Invention:		GROUNDING SYSTEM		
First Named Inventor/Applicant Name:		ALLEN GARRETT SMITH		
Filer:		Arnold B Silverman/Helen McKay		
Attorney Docket Number:		308329-00021		
Filed as Small 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:				
CERTIFICATE OF CORRECTION	2811	1	150	150

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				150

Electronic Acknowledgement Receipt

EFS ID:	38140783
Application Number:	15725668
International Application Number:	
Confirmation Number:	2706
Title of Invention:	GROUNDING SYSTEM
First Named Inventor/Applicant Name:	ALLEN GARRETT SMITH
Customer Number:	3705
Filer:	Arnold B Silverman/Helen McKay
Filer Authorized By:	Arnold B Silverman
Attorney Docket Number:	308329-00021
Receipt Date:	26-DEC-2019
Filing Date:	05-OCT-2017
Time Stamp:	14:18:25
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$150
RAM confirmation Number	E2019BPE18504901
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	Request for Certificate of Correction	308329-00021-CERTIFICATEOF CORRECTION.pdf	139597	no	2
			92675de881e622dfcd14c5d949fdb39fc3b4c215		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30027	no	2
			0ebc357303792f773ca35dd1c0076925679ef3ac		
Warnings:					
Information:					
Total Files Size (in bytes):			169624		
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
CERTIFICATE OF CORRECTION

PATENT NO. : 10,177,551 B1
APPLICATION NO. : 15/725668
DATED : January 8, 2019
INVENTOR(S) : Allen Garrett Smith et al.

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Specification

Column 5, Line 64, "zero (00)" should read --zero (0°)--.
Column 8, Line 28, "elements" should read --element--.
Column 9, Line 34, "an do" should read --and do--.

Signed and Sealed this
Twenty-eighth Day of January, 2020



Andrei Iancu
Director of the United States Patent and Trademark Office