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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
61/243,436	09/17/2009		110	493331/0031		

CONFIRMATION NO. 3269

26610
STROOCK & STROOCK & LAVAN LLP
180 MAIDEN LANE
NEW YORK, NY 10038

FILING RECEIPT

OC000000037993202

Date Mailed: 09/29/2009

Receipt is acknowledged of this provisional patent application. It will not be examined for patentability and will become abandoned not later than twelve months after its filing date. 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**

Applicant(s)

Glenn J. Luzzi, Mt. Bethel, PA;

Power of Attorney:
Charles Cantine--43531

If Required, Foreign Filing License Granted: 09/25/2009

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 61/243,436**

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****
Title

DOUBLE HEAD TORQUE HEX NUT

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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PTO/SB/16 (10-08)
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PROVISIONAL APPLICATION FOR PATENT COVER SHEET – Page 1 of 2

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

Express Mail Label No. FILED ELECTRONICALLY (EFS)

INVENTOR(S)		
Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)
Glenn J.	**Luzzi**	**Mt. Bethel, PA**

Additional inventors are being named on the _____ *separately numbered sheets attached hereto*

TITLE OF THE INVENTION (500 characters max):

DOUBLE HEAD TORQUE HEX NUT

Direct all correspondence to: **CORRESPONDENCE ADDRESS**

☒ The address corresponding to Customer Number: **26610**

OR

☐ Firm or Individual Name

Address

City	State	Zip
Country	Telephone	Email

ENCLOSED APPLICATION PARTS *(check all that apply)*

☐ Application Data Sheet. See 37 CFR 1.76

☐ CD(s), Number of CDs _____

☒ Drawing(s) *Number of Sheets* 1

☐ Other (specify) _____

☒ Specification (e.g. description of the invention) *Number of Pages* 5

Fees Due: Filing Fee of $220 ($110 for small entity). If the specification and drawings exceed 100 sheets of paper, an application size fee is also due, which is $270 ($135 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).

METHOD OF PAYMENT OF THE FILING FEE AND APPLICATION SIZE FEE FOR THIS PROVISIONAL APPLICATION FOR PATENT

☒ Applicant claims small entity status. See 37 CFR 1.27.

☐ A check or money order is enclosed to cover the filing fee and application size fee (if applicable).

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

$110.00

TOTAL FEE AMOUNT ($)

☒ The Director is hereby authorized to charge the filing fee and application size fee (if applicable) or credit any overpayment to Deposit Account Number: **19-4709**.

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

PTO/SB/16 (10-08)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ No.

☐ Yes, the name of the U.S. Government agency and the Government contract number are: _____

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SIGNATURE  Date **September 17, 2009**

TYPED or PRINTED NAME **Charles E. Cantine** REGISTRATION NO. **43,531** *(if appropriate)*

TELEPHONE **212-806-5400** Docket Number: **493331/0031**

DOUBLE HEAD TORQUE HEX NUT

BACKGROUND OF THE INVENTION

[001] In many applications, including those by way of example in the underground electrical connector industry, certain products and/or components of such products must be connected using certain types of connectors, such as, by way of example, hex nuts. It is often necessary that such connecting nuts be installed at a particular torque to ensure the elements are properly connected, for example to meet industry standards. In addition, because these nuts are often used in underground environments, it is important that the nut and any residual components of the nut be fully insulated.

[002] Typically, in order to ensure that the nuts are installed to the appropriate torque, a user would employ a torque tool (such as a torque wrench) adjusted to the appropriate setting. However, users may not have a torque wrench tool, or if available, the user may not use it, or may use it properly, in which case the connection may not be installed properly.

[003] In light of the shortcomings of the conventional methods and applications known in the art, it is desirable to provide a device that helps ensure proper installation of a connecting nut without the need for a torque tool.

SUMMARY OF THE INVENTION

[004] The present invention is directed towards a double head torque hex nut. The double head torque hex nut includes a brass threaded portion onto which a rigid insulating material is applied. The insulating material can be, by way of example, epoxy, nylon or phenolic, and may further include a glass or other fill material for added strength. The insulating material includes an inner hex nut head, and an outer hex head nut connected to the inner hex nut head by a shear surface. The shear surface is a ring of insulating material (such as those described above) that

connects the inner hex nut head to the outer hex head nut. The shear surface is sized to break at a specific torque such that the outer hex head nut detaches from the inner hex nut head.

BRIEF DESCRIPTION OF THE DRAWINGS

[005] A further understanding of the present invention can be obtained by reference to a preferred embodiment set forth in the illustrations of the accompanying drawings. Although the illustrated embodiment is merely exemplary of systems for carrying out the present invention, both the organization and method of operation of the invention, in general, together with further objectives and advantages thereof, may be more easily understood by reference to the drawings and the following description. The drawings are not intended to limit the scope of this invention, which is set forth with particularity in the claims as appended or as subsequently amended, but merely to clarify and exemplify the invention.

DESCRIPTION OF A PREFERRED EMBODIMENT

[006] Reference is made to the attached drawings, wherein an embodiment of a double head torque hex nut according to the present invention is shown and described. As shown in the attached drawings, the double head torque hex nut 10 according to the present invention includes a brass threaded portion 12 (shown by the alternate solid and broken lines in "Section A-A") onto which an insulating material is applied. The insulating material includes an inner hex nut head 14. An outer hex head nut 16 is connected to the inner hex nut head 14 by a shear surface 18. The shear surface 18 can be a ring of insulating material connecting the inner hex nut head 14 to the outer hex head nut 16. The shear surface 18 is sized to break at a specific torque whereby the outer hex head nut 16 would detach from the inner hex nut head 14.

[007] The insulating material can be any rigid insulating material, such as epoxy, nylon or phenolic, and may further include a filling material, such as glass, for added strength. In a preferred embodiment the insulating material is epoxy.

[008] The user installs the bolt using the outer hex head 16. The outer hex head nut 16 shears off along shear surface 18 when a pre-determined torque is achieved. The pre-determined torque is a function of the shear dimension of the shear surface 18 and can be altered to achieve a specific desired torque. After the outer hex head nut 16 is sheared off, the user can remove the bolt and/or nut using the inner hex head 14.

[009] The novel double head torque hex nut according to the present invention can be used in any number of applications wherein a nut or other connecting device is to be applied at a specific torque and which further requires that the residual component(s) be insulated. By way of example, the double head torque hex nut of the present invention is particularly useful when used to connect the limiter leg to the buss for a crab joint.

[0010] When distributing electricity underground, crab joints are commonly used to make multiple cable connections. One type of joint that is used at secondary voltages (600 volts or lower) is a permanent, single layer rubber molded product having lengths of a cable ("pigtails" or "legs") connected to a copper bus that make up the conducting element of the joint. During installation, the linesman installs the joint by compressing one end of a copper tube on the cable pigtails and the other end of the copper tube on the cable The connection is then insulated using tape or a piece of heat shrink insulation.

[0011] Co-pending Application Serial No. 12/207,267, which is incorporated herein by reference, and which is owned by the same assignee as the present invention, is directed towards an improved crab joint having a rubber sealed, waterproof multi-cable underground joint that can be connected via compression connections using pigtails, with each pigtail comprising a replaceable limiter and a blown limiter indicator. As described therein, the joint preferably includes a U-shaped copper bus having a plurality of pigtails connected to each side of the U.

The replaceable limiters are positioned on the outside of the U, with the associated blown limiter indicators positioned on the inside of the U. The U-shaped orientation of the joint provides benefits over the prior art design in that the user can simply look down the short axis of the joint to determine which limiters are blown.

[0012] The double head torque hex nut of the present invention is particularly useful when used to connect the limiter leg to the buss for a crab joint as described in co-pending Application Serial No. 12/207,267. One advantage would be that the installer would not have to worry about using a torque wrench, but rather would just need a wrench with the two different sized heads.

[0013] The examples provided are merely exemplary, as a matter of application specific to design choice, and should not be construed to limit the scope of the invention in any way. Thus, while there have been shown and described and pointed out novel features of the present invention as applied to preferred embodiments thereof, it will be understood that various omissions and substitutions and changes in the form and details of the disclosed invention may be made by those skilled in the art without departing from the spirit of the invention. For example, the material, size, and design of the double hex head nut can be varied without deviating from the scope of the invention. It is the intention, therefore, to be limited only as indicated by the scope of the claims appended hereto.

[0014] It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

CLAIMS

I claim:

1. A double head nut formed of an insulating material comprising:

an inner nut having an outer hex surface having a first dimension for engaging a tool having a corresponding first dimension;

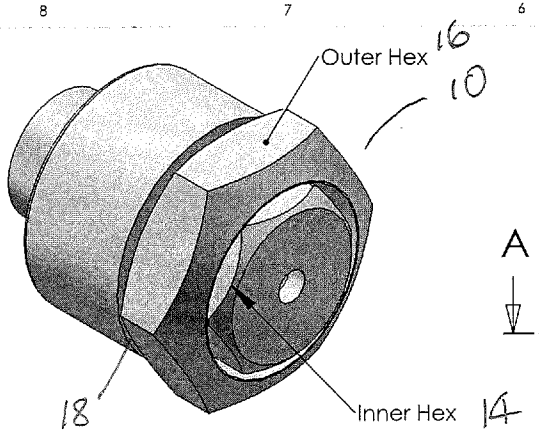
an outer nut having an inner surface and an outer hex surface having a second dimension for engaging a tool having a corresponding second dimension;

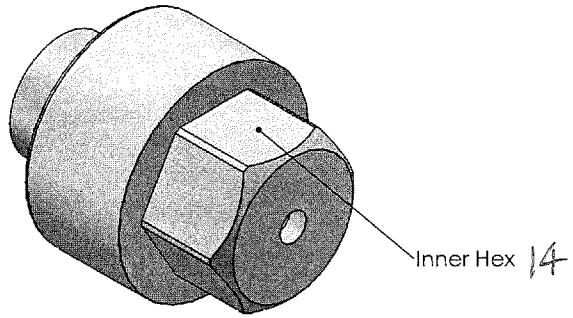
the inner surface of the outer nut engaging a portion of the outer hex surface of the inner nut;

wherein the outer nut is designed to disengage from the inner nut at a predetermined torque.

2. The double head nut assembly according to claim 1, further comprising a brass threaded portion attached to the inner nut.

3. The double head nut assembly according to claim 1, wherein the assembly is formed of epoxy.

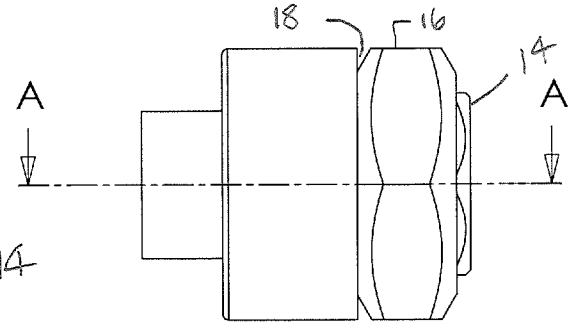


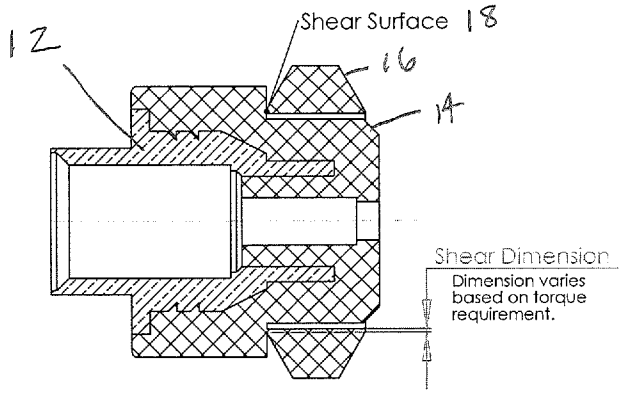


Double Hex Shear Bolt

User installs bolt using outer hex surface which shears off along the shear surface at a pre-designated torque. The required torque is driven by the "Shear Dimension" and can be altered to achieve a specific desired torque. After the outer hex is sheared off the bolt, the user can remove the bolt using the inner hex surface.

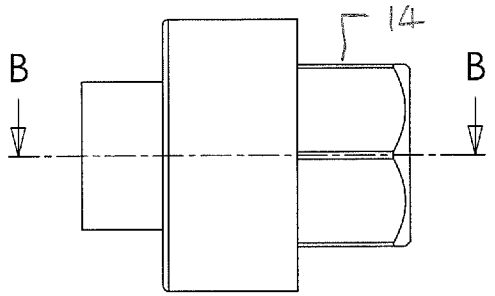
Before Installation

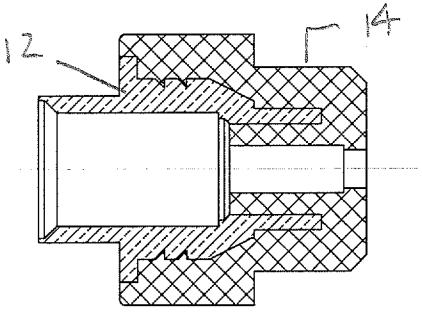




SECTION A-A

After Installation





SECTION B-B

NAME DATE

DRAFTED Jeff Madden 6/23/2009

SCALE: 1.5:1 REV B

RICHARDS MANUFACTURING COMPANY
517 LYONS AVENUE
IRVINGTON, NJ 07111

Double Hex Shear Bolt

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	DOUBLE HEAD TORQUE HEX NUT
First Named Inventor/Applicant Name:	Glenn J. Luzzi
Filer:	Charles E Cantine/Lucille Assevero
Attorney Docket Number:	493331/0031

Filed as Small Entity

Provisional Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Provisional Application filing fee	2005	1	110	110
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	**110**

Electronic Acknowledgement Receipt

EFS ID:	6095721
Application Number:	61243436
International Application Number:	
Confirmation Number:	3269
Title of Invention:	DOUBLE HEAD TORQUE HEX NUT
First Named Inventor/Applicant Name:	Glenn J. Luzzi
Customer Number:	26610
Filer:	Charles E Cantine/Lucille Assevero
Filer Authorized By:	Charles E Cantine
Attorney Docket Number:	493331/0031
Receipt Date:	17-SEP-2009
Filing Date:	
Time Stamp:	18:02:55
Application Type:	Provisional

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$110
RAM confirmation Number	4141
Deposit Account	194709
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	Transmittal of New Application	ProvisionalApplnPatentCoverSheet.pdf	174687 10ac0576094de4901be114ce910e3f756f59d8b0	no	2
Warnings:					
Information:					
2		Specification.pdf	309122 e5b7ff7f8a42f4d49a53afd9ed8396179e1e2b3c	yes	5

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Specification	1	4
Claims	5	5

Warnings:					
Information:					
3	Drawings-only black and white line drawings	Drawing.pdf	221528 e87578afd658c722a9ae10a446182ba4c1fce043	no	1
Warnings:					
Information:					
4	Fee Worksheet (PTO-875)	fee-info.pdf	29708 214a0b41a2a839d0ed0f21bb2c802d29f385e169	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	735045		

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New International Application Filed with the USPTO as a Receiving Office

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