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(54) Title: MID-SPAN GROUNDING CLAMP AND METHOD OF USE

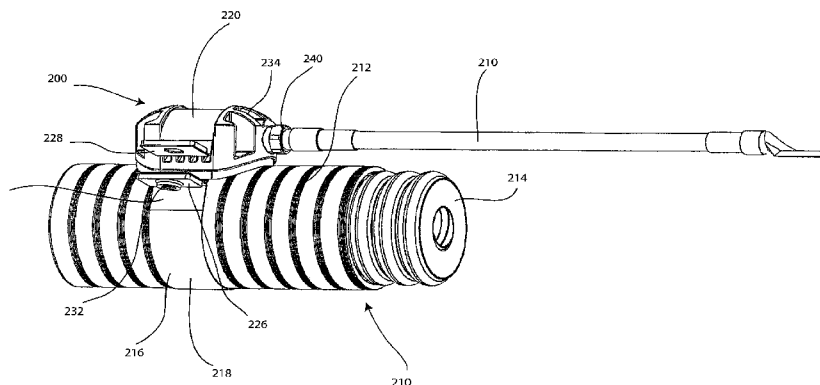


FIG. 6

(57) Abstract: A grounding clamp is provided that includes a housing configured to receive both ends of an extending wire in an inner chamber through a first opening, the housing including a second opening configured to receive a lug, wherein the lug is to secure both ends of the grounding wire within the inner chamber. A method of installing a grounding clamp includes attaching a fishline to a grounding wire and inserting the fishline through an opening of a corrugated coaxial cable in a valley located between an outer conductor and an outer jacket of the coaxial cable, wherein the fishline is flexible enough that it bends around the corrugated coaxial cable. A drill bit for creating an opening in a coaxial cable is also contemplated, along with a tool for fishing the grounding wire through the coaxial cable.



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US13/51670

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - H01R 4/66 (2014.01)

USPC - 439/98

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) Classification(s): H01R 4/66, 4/58 (2014.01)

USPC Classification(s): 439/98, 92, 99

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

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

MicroPatent (US Granted, US Applications, EP-A, EP-B, WO, JP, DE-G, DE-A, DE-T, DE-U, GB-A, FR-A); ProQuest (Derwent, INSPEC, NTIS, PASCAL, Current Contents Search, Dissertation Abstracts Online, Inside Conferences); IEEE.org; Google Scholar; KEYWORDS: ground*, clamp*, connect*, coax*, CATV, corrugat*, shield*, cable*, cord*, wire, sheath*, skin*, cover*, strap*, hole*, bore*, opening*

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 8,152,537 B1 (MONTENA, N) April 10, 2012; abstract; figures 1, 2A, 3A, and 4; column 3, lines 40-45; column 4, lines 15-20; column 10, lines 26-28; column 11, lines 8-13	1-3, 6-8
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Y		4, 5, 9
Y	US 2002/0153157 A1 (HARGER, T et al.) October 24, 2002; figures 1 and 2; paragraph [0009, 0020, 0021, 0022]	4, 5
Y	US 5,850,056 A (HARWATH, F) December 15, 1998; figures 7 and 8; column 2, lines 29-39; column 5, lines 47-50; column 6, lines 57-59	9

Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

“A” document defining the general state of the art which is not considered to be of particular relevance

“E” earlier application or patent but published on or after the international filing date

“L” document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

“O” document referring to an oral disclosure, use, exhibition or other means

“P” document published prior to the international filing date but later than the priority date claimed

“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

“&” document member of the same patent family

Date of the actual completion of the international search

25 November 2013 (25.11.2013)

Date of mailing of the international search report

06 MAR 2014

Name and mailing address of the ISA/US

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US13/51670

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

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

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

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

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

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
See Extra Sheet.

- 1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
- 2. As all searchable claims could be searched without effort justifying additional fees, this Authority did not invite payment of additional fees.
- 3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
- 4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-9

- Remark on Protest**
- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
 - The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
 - No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US13/51670

-Continued from Box III-

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fee must be paid.

Group I: Claims 1-9 are directed toward a grounding clamp comprising a grounding wire, two ends, an opening, a coaxial cable, a housing, an inner chamber, a first opening, a second opening, outer conductor, outer jacket, and a securing member.

Group II: Claims 10-16 and 21-26 are directed toward a method of installing a grounding clamp comprising a fishline, a grounding wire, an opening, a corrugated coaxial cable, a valley, an outer conductor, an outer jacket, handle, and first and second fingers.

Group III: Claims 17-20 are directed toward a drill bit comprising a circumferential base, a plurality of teeth, a material, an outer conductor, a standard corrugated coaxial cable, a greater diameter, thickness, and outer jacket.

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features. Group I has at least a second opening and a securing member that Groups II and III do not have. Group II has at least a fishline, handle, and first and second fingers that Groups I and III do not have. Group III has at least a circumferential base, a plurality of teeth, and a material that Groups I and II do not have.

The common technical features of Groups I-III are at least a grounding clamp, a grounding wire, an opening, a corrugated coaxial cable, outer conductor, and an outer jacket. This common feature is disclosed by US 8,152,537 B1 to Montena. Montena discloses a grounding clamp (grounding clamp 100, figure 1, column 3, lines 40-43), a grounding wire (additional conductive component, such as a grounding wire, column 10, lines 60-65), an opening (outer shell 60 includes a generally axial opening, figure 1, column 6, lines 33-39), a corrugated coaxial cable (the outer conductive portion of cable 10 may be a solid corrugated tubing, column 4, figure 1, lines 32-34), outer conductor (outer conductive portion of coaxial cable 10, figure 1, column 4, lines 26-30), and an outer jacket (outer jacket 12, figure 1, column 3, lines 43-46).

Since the common technical feature is previously disclosed by the Montena reference, these common features are not special and so Groups I-III lack unity