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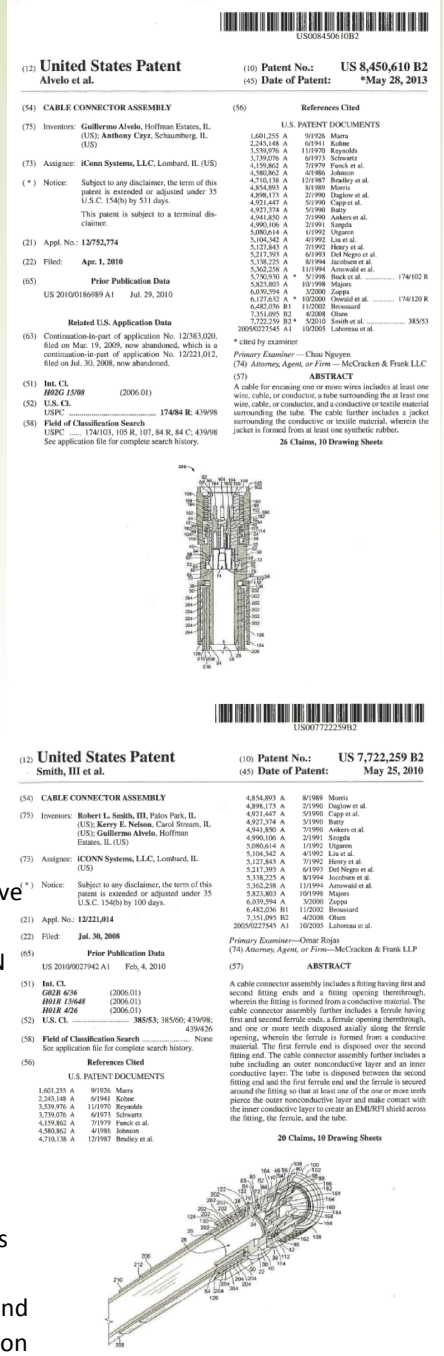

US008450610B2

(12) **United States Patent**
Alvelo et al.

(10) **Patent No.: US 8,450,610 B2**
(45) **Date of Patent: *May 28, 2013**

(54) **CABLE CONNECTOR ASSEMBLY**

(75) Inventors: **Guillermo Alvelo**, Hoffman Estates, IL (US); **Anthony Czyz**, Schaumburg, IL (US)

(73) Assignee: **iConn Systems, LLC**, Lombard, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 531 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **12/752,774**

(22) Filed: **Apr. 1, 2010**

(65) **Prior Publication Data**

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Related U.S. Application Data

(63) Continuation-in-part of application No. 12/383,020, filed on Mar. 19, 2009, now abandoned, which is a continuation-in-part of application No. 12/221,012, filed on Jul. 30, 2008, now abandoned.

(51) **Int. Cl.**
H02G 15/08 (2006.01)

(52) **U.S. Cl.**
USPC ..... **174/84 R**; 439/98

(58) **Field of Classification Search**
USPC ..... 174/103, 105 R, 107, 84 R, 84 C; 439/98
See application file for complete search history.

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(57) **ABSTRACT**

A cable for encasing one or more wires includes at least one wire, cable, or conductor, a tube surrounding the at least one wire, cable, or conductor, and a conductive or textile material surrounding the tube. The cable further includes a jacket surrounding the conductive or textile material, wherein the jacket is formed from at least one synthetic rubber.

26 Claims, 10 Drawing Sheets

US007722259B2

(12) **United States Patent**
Smith, III et al.

(10) **Patent No.: US 7,722,259 B2**
(45) **Date of Patent: May 25, 2010**

(54) **CABLE CONNECTOR ASSEMBLY**

(75) Inventors: **Robert L. Smith, III**, Palos Park, IL (US); **Kerry E. Nelson**, Carol Stream, IL (US); **Guillermo Alvelo**, Hoffman Estates, IL (US)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 100 days.

(21) Appl. No.: **12/221,014**

(22) Filed: **Jul. 30, 2008**

(65) **Prior Publication Data**

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(51) **Int. Cl.**
G02B 6/36 (2006.01)
H01R 13/648 (2006.01)
H01R 4/26 (2006.01)

(52) **U.S. Cl.** **385/53**; 385/60; 439/98; 439/426

(58) **Field of Classification Search** ..... None
See application file for complete search history.

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7,351,095	B2	4/2008	Olsen	
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(74) *Attorney, Agent, or Firm*—McCracken & Frank LLP

(57) **ABSTRACT**

A cable connector assembly includes a fitting having first and second fitting ends and a fitting opening therethrough, wherein the fitting is formed from a conductive material. The cable connector assembly further includes a ferrule having first and second ferrule ends, a ferrule opening therethrough, and one or more teeth disposed axially along the ferrule opening, wherein the ferrule is formed from a conductive material. The first ferrule end is disposed over the second fitting end. The cable connector assembly further includes a tube including an outer nonconductive layer and an inner conductive layer. The tube is disposed between the second fitting end and the first ferrule end and the ferrule is secured around the fitting so that at least one of the one or more teeth pierce the outer nonconductive layer and make contact with the inner conductive layer to create an EMI/RFI shield across the fitting, the ferrule, and the tube.

20 Claims, 10 Drawing Sheets

iCONN Patent Announcement

One of iCONN Systems' core competencies is the design and development of connector systems for a wide range of markets. These markets include safety equipment, automotive and industrial control, just to name a few. iCONN's innovations efficiently boost product performance and provide our customers with new options and solutions that keep iCONN ahead of the competition.

iCONN maintains a complete engineering staff which includes design, industrial, manufacturing and tooling engineers. iCONN utilizes these resources and vertically integrated manufacturing facility located in Lombard, Illinois to provide complete interconnect solutions to a wide range of markets.

iCONN is pleased to announce the issuance of their latest patent (US 8,450,610) for a synthetic rubber cable construction used in rugged, high temperature environments. This construction covers a wide range of configurations and can be integrated into many connector designs. The cable can be easily configured with various wire types and sizes and remain flexible, water tight, temperature resistant and prove to be and economical solution to many applications.

Contact iCONN for additional information concerning this patent or other connector solutions for your application. iCONN can provide an engineered solution along with 3D models, prototypes and performance testing / analysis.

iCONN will also facilitate third party testing and listing through Nationally Recognized Testing Laboratories (NRTL) like UL and CSA to provide a complete connector solution.

iCONN can also apply their connector products to pre-existing equipment. Providing an over-molded connector assembly to industrial equipment furnishes iCONN's customers with a rugged, watertight solution to enhance the quality and appearance of their product. iCONN's connector design and processes are flexible and allow for a wide range of material choices to suit the application or system requirements.