



US009409010B2

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

(10) **Patent No.:** **US 9,409,010 B2**
(45) **Date of Patent:** **Aug. 9, 2016**

(54) **ELECTRODE FIXING SLEEVE WITH STIFFENED FASTENING PORTION AND METHOD FOR PRODUCTION THEREOF**

A61N 1/0539 (2013.01); *A61N 1/0558* (2013.01); *A61N 2001/0582* (2013.01); *B29L 2031/753* (2013.01); *Y10T 29/49947* (2015.01)

(71) Applicant: **BIOTRONIK SE & Co. KG**, Berlin (DE)

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

(72) Inventors: **Chiheb Farhat**, Berlin (DE); **Siegfried Voigt**, Berlin (DE); **Ines Große**, Berlin (DE)

(56) **References Cited**

(73) Assignee: **BIOTRONIK SE & Co. KG**, Berlin (DE)

U.S. PATENT DOCUMENTS

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

2009/0125059 A1 5/2009 Verzal et al.
2010/0324569 A1 12/2010 Helgesson
2012/0071959 A1 3/2012 Helgesson
2012/0197367 A1 8/2012 Olson et al.

OTHER PUBLICATIONS

(21) Appl. No.: **14/595,343**

European Search Report and Notes to the European Search Report on European Patent Application No. EP 15 15 0321, dated Apr. 24, 2015 (7 pages).

(22) Filed: **Jan. 13, 2015**

(65) **Prior Publication Data**

Primary Examiner — Brian T Gedeon
(74) *Attorney, Agent, or Firm* — Buchanan Ingersoll & Rooney PC

US 2015/0209574 A1 Jul. 30, 2015

Related U.S. Application Data

(60) Provisional application No. 61/932,804, filed on Jan. 29, 2014.

(57) **ABSTRACT**

(51) **Int. Cl.**
A61N 1/05 (2006.01)
B29C 39/02 (2006.01)
B29L 31/00 (2006.01)

An electrode fixing sleeve is provided for fixing an electrode to a tissue portion of a patient, and also provided is a method for production thereof. In order to avoid damaging the electrode as a result of the fastening thereof to the electrode fixing sleeve, the fastening portion is formed with a greater rigidity than an adjacent portion of the electrode fixing sleeve.

(52) **U.S. Cl.**
CPC *A61N 1/05* (2013.01); *A61N 1/057* (2013.01); *B29C 39/026* (2013.01); *A61N 1/059* (2013.01);

13 Claims, 6 Drawing Sheets

