

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NEVRO CORP.
Petitioner

v.

BOSTON SCIENTIFIC NEUROMODULATION CORP.
Patent Owner

Case IPR2018-00143
U.S. Patent 7,891,085

DECLARATION OF MICHAEL PLISHKA

Nevro Corp

TABLE OF CONTENTS

I.	Introduction.....	1
II.	Summary of my opinions	1
III.	Qualifications.....	2
IV.	Materials considered.....	4
V.	Relevant legal standards	5
	A. Level of ordinary skill	6
	B. Claim construction	7
	C. Obviousness.....	8
VI.	The '085 patent	9
	A. Overview of implantable stimulation leads.....	10
	B. Overview of the claimed invention	13
	1. The claims define a stimulation lead having certain features...14	
	2. The claims are method claims directed to a method for manufacturing the described stimulation lead.	20
VII.	Overview of the prior art.	27
	A. Stolz overview	27
	B. Ormsby overview	35
	C. Verness overview	36
	D. Black overview.....	38
	E. Wessman overview.....	40
	F. The Modern Plastics Encyclopedia overview.....	42
	G. Saab overview	42
VIII.	The combination of Stolz, Ormsby, Black, and the knowledge of a POSA renders obvious claims 1-3, 6-12, and 14-17 of the '085 patent.....	43
	A. Independent claim 1	45
	1. “A method of manufacturing a stimulation lead having a proximal end and a distal end, comprising:”	45
	2. “providing a plurality of conductive contacts located at an end of a lead body of the stimulation lead;”	46

3.	“disposing a plurality of conductor wires in a plurality of conductor lumens formed in the lead body;”	47
4.	“connecting at least one of the plurality of conductor wires to each of the conductive contacts;”	49
5.	“placing spacers between pairs of adjacent conductive contacts;”	52
6.	“wherein portions of the conductor lumens are located beneath the plurality of conductive contacts and the spacers;”	52
7.	“inserting monofilament into at least one portion of at least one of the conductor lumens of the lead body that is not occupied by the conductor wires;”	54
8.	“reflowing at least one of the spacers or monofilament into at least one portion of at least one of the conductor lumens not occupied by the conductive wires by heating the spacers and monofilament to a temperature to cause thermal flow or melting of at least one of the spacers or monofilament.”	63
B.	Claim 2	68
1.	“The method of claim 1,”	68
2.	“wherein either the spacers or monofilament is polyurethane.”	68
C.	Claim 3	70
1.	“The method of claim 2,”	70
2.	“wherein the monofilament is a thermoplastic material.”	70
D.	Claim 6	71
1.	“The method of claim 1,”	71
2.	“wherein the spacers are oversized in diameter, relative to a predetermined final diameter of the lead.”	71
E.	Claim 7	72
1.	“The method of claim 1,”	72
2.	“wherein conductive contacts are in the form of rings.”	72
F.	Claim 8	73
1.	“The method of claim 1,”	73

	2.	“wherein the conductive contacts are electrode contacts on the lead.”	73
G.		Claim 9	74
	1.	“The method of claim 1,”	74
	2.	“wherein the conductive contacts are connector contacts on the proximal end of the lead.”	74
H.		Claim 10	75
	1.	“The method of claim 1,”	75
	2.	“wherein the step of connecting a conductor wire to each of the electrode contacts is accomplished by welding each conductor wire to each respective contact.”	75
I.		Claim 11	76
	1.	“The method of claim 1”	76
	2.	“wherein the monofilament is a different material than the spacers.”	77
J.		Claim 12	77
	1.	“The method of claim 1,”	77
	2.	“wherein the monofilament is the same material as the spacers.”	78
K.		Claim 14	78
	1.	“The method of claim 1,”	78
	2.	“wherein the plurality of electrically conductive contacts are located on the proximal end of the stimulation lead.”	78
L.		Claim 15	79
	1.	“The method of claim 1,”	79
	2.	“wherein the plurality of electrically conductive contacts are located on the distal end of the stimulation lead.”	79
M.		Claim 16	79
	1.	“The method of claim 1,”	79
	2.	“wherein the plurality of electrically conductive contacts and the spacers form a substantially cylindrical body and wherein the conductor lumens are defined within the substantially cylindrical body.”	80

N.	Claim 17	81
	1. “The method of claim 1,”	81
	2. “wherein the monofilament is disposed in an orientation parallel to the conductor wires.”	81
IX.	The combination of Stolz, Ormsby, Black, and the knowledge of a POSA, further in view of the Modern Plastics Encyclopedia, renders obvious claims 4, 5, and 13 of the ’085 patent.	82
A.	Claim 4	84
	1. “The method of claim 3,”	84
	2. “wherein the heat applied is between about 140 to 250 degrees Celsius.”	85
B.	Claim 5	86
	1. “The method of claim 4,”	86
	2. “wherein the heat is applied for between about 15 to 120 seconds.”	86
C.	Claim 13	89
	1. “The method of claim 5,”	89
	2. “wherein the heat applied is about 160 degrees Celsius for about 40 seconds.”	89
X.	The combination of Stolz, Ormsby, Black, the knowledge of a POSA, further in view of Wessman, render obvious claim 18 of the ’085 patent. ...	89
A.	Claim 18	90
	1. “The method of claim 1,”	90
	2. “placing a heat shrink tubing around the spacers, conductive contacts, and monofilament and removing the heat shrink tubing after reflowing at least one of the spacers or monofilament.”	90
XI.	The combination of Stolz, Ormsby, Black, the knowledge of a POSA, and Wessman, further in view of Saab, renders obvious claim 19 of the ’085 patent.	92
A.	Claim 19	92
	1. “The method of claim 18,”	92

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.