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Kuzma et al.

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(54) **ELECTRODE ARRAY ASSEMBLY AND METHOD OF MAKING SAME**

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Related U.S. Application Data

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(51) **Int. Cl.**
H01R 43/00 (2006.01)
A61N 1/00 (2006.01)

(52) **U.S. Cl.** **29/825; 607/116**

(58) **Field of Classification Search** **29/825;**
607/115-122

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,769,984 A 11/1973 Muench

5,555,618 A *	9/1996	Winkler	29/825
6,055,456 A	4/2000	Gerber	
6,205,361 B1	3/2001	Kuzma et al.	
6,216,045 B1 *	4/2001	Black et al.	607/122
6,249,708 B1 *	6/2001	Nelson et al.	607/122
6,551,302 B1 *	4/2003	Rosinko et al.	604/505
2005/0215945 A1 *	9/2005	Harris et al.	604/66

* cited by examiner

Primary Examiner—A. Dexter Tugbang

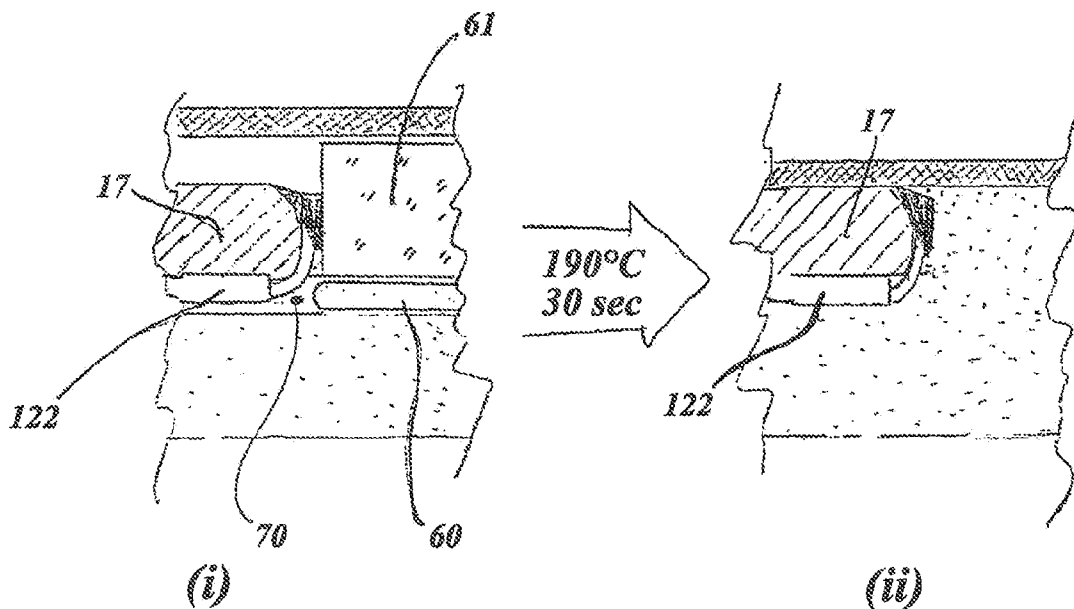
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(57) **ABSTRACT**

A lead assembly and a method of making a lead are provided. The method of making a multi-contact lead assembly comprises providing conductive contacts located at an end of a lead body, disposing conductive wires in conductor lumens formed in the lead body, and connecting the conductive wires to the conductive contacts. The method further includes placing spacers between pairs of conductive contacts and inserting monofilament in at least a portion of at least one of the conductor lumens not occupied by the conductor wires. The method also includes reflowing at least one of the spacers or monofilament into at least one portion of at least one of the conductor lumens by heating the spacers and monofilament to a temperature to cause thermal flow or melting of at least one of the spacers or monofilament.

19 Claims, 5 Drawing Sheets



Nevro Corp

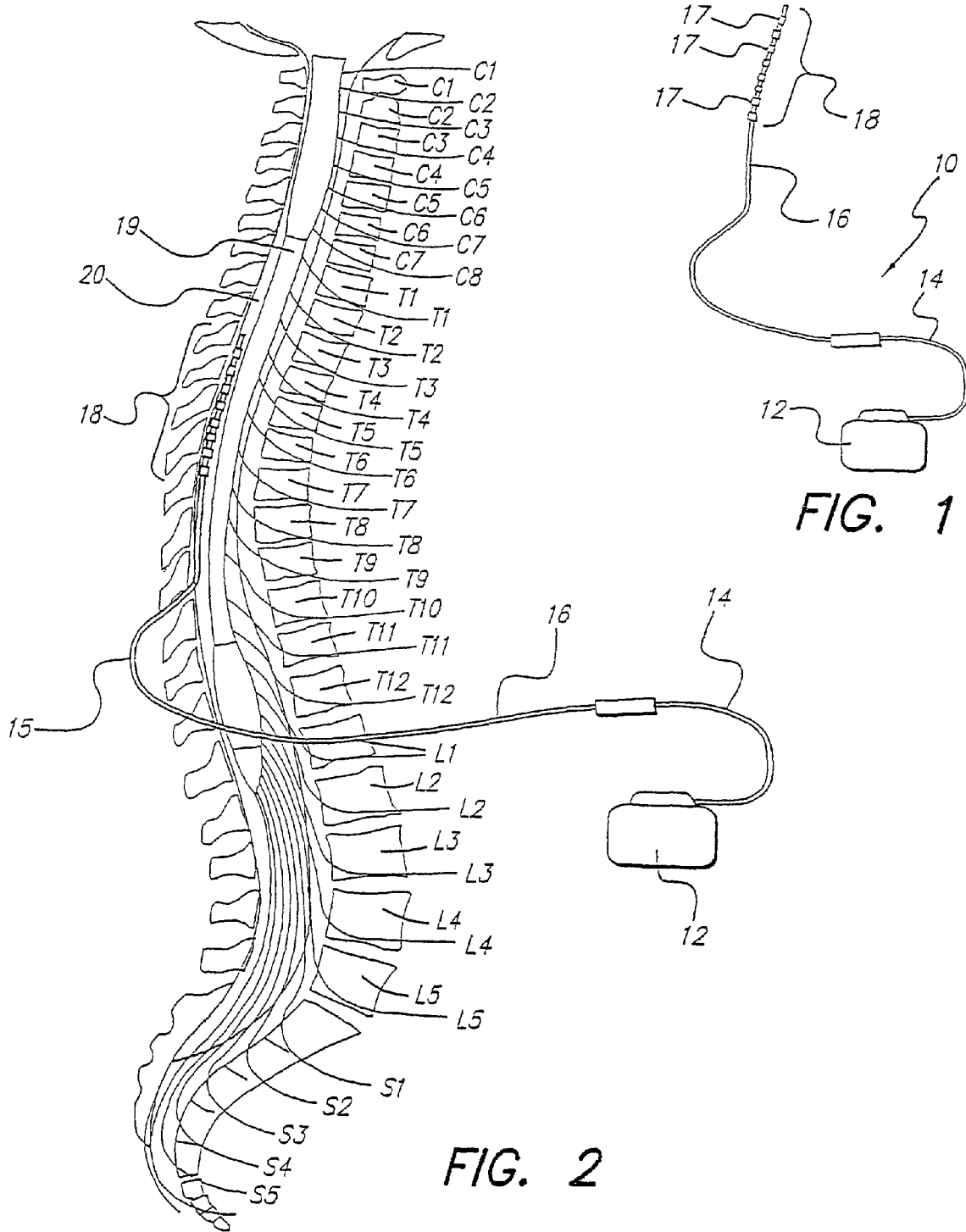


FIG. 1

FIG. 2

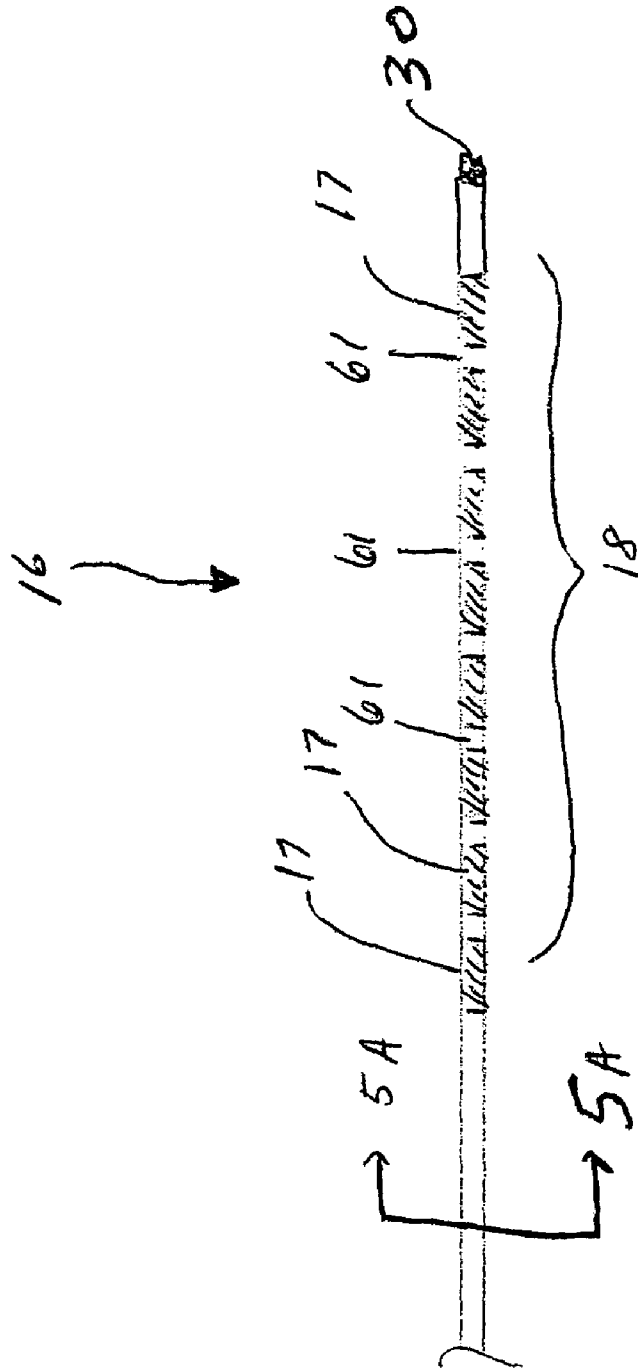
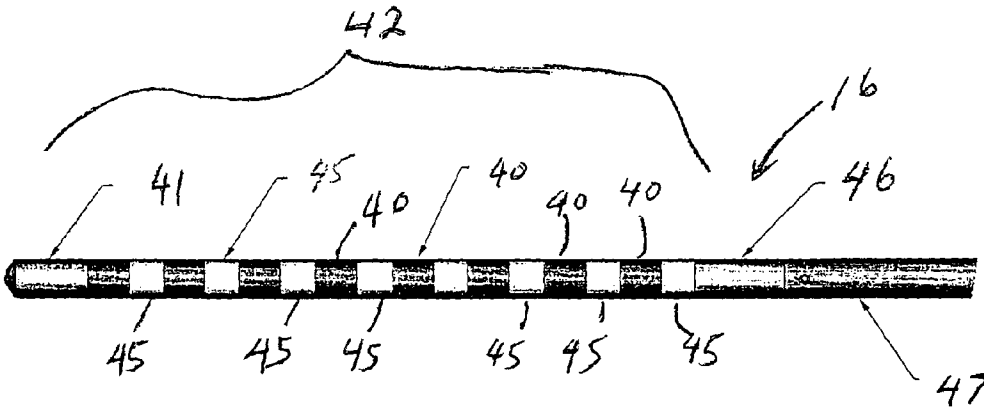
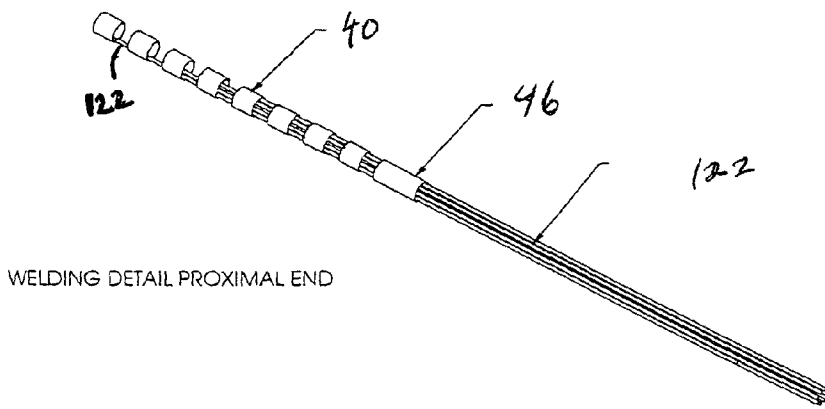


FIG. 3A



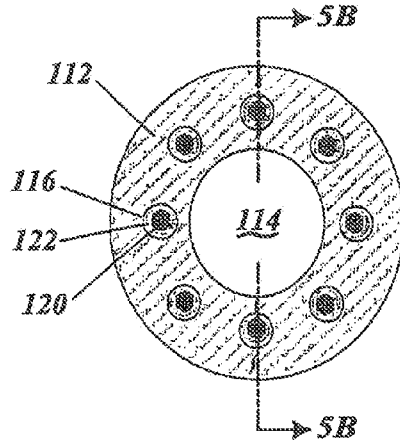


FIG. 5A

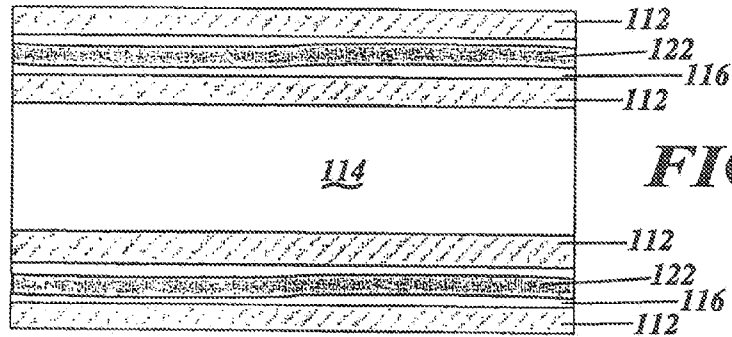


FIG. 5B

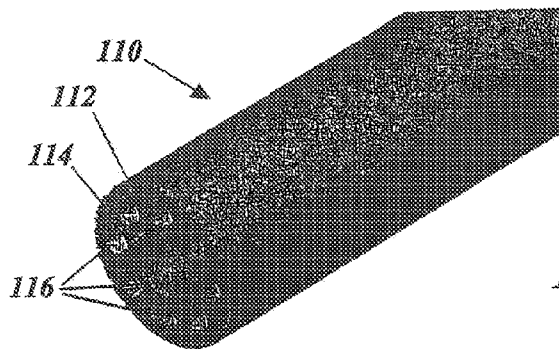


FIG. 5C

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