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Finneran et al.

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(54) **EMG ELECTRODE APPARATUS AND POSITIONING SYSTEM**

(75) Inventors: **Mark T. Finneran**, Wooster, OH (US); **Kathryn E. Alexander**, Columbus, OH (US); **B. Russell Alexander**, Columbus, OH (US); **Charles E. Wickham, Jr.**, Glenford, OH (US); **Richard L. Hitchcock**, Grove City, PA (US); **Scott D. Howard**, Galloway, OH (US)

(73) Assignee: **SpineMatrix, Inc.**, Cincinnati, OH (US)

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This patent is subject to a terminal disclaimer.

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(52) **U.S. Cl.** **600/393; 600/382; 600/391; 600/392; 600/546**

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See application file for complete search history.

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Primary Examiner — Lee S Cohen

(74) *Attorney, Agent, or Firm* — Christopher L. Parmelee; Walker & Jocke

(57) **ABSTRACT**

A system for detecting and analyzing electrical activity in the anatomy of an organism underlying an electrode array provides signals corresponding to electrical activity adjacent each electrode. Such signals are correlated to the underlying anatomy of the organism and representative outputs presented through various types of output devices. Such outputs may include variations in coloration or other qualities in correspondence with representations of underlying anatomical structures. The system includes electrode structures and methods for producing and attaching electrode arrays to the organism. The exemplary form of the invention is used in connection with the diagnosis of muscle activity in the lower lumbar regions of humans. Levels of muscle activity detected are analyzed by correlation with the muscular structures underlying the electrode array. Forms of the invention may be used in other applications.

9 Claims, 35 Drawing Sheets

