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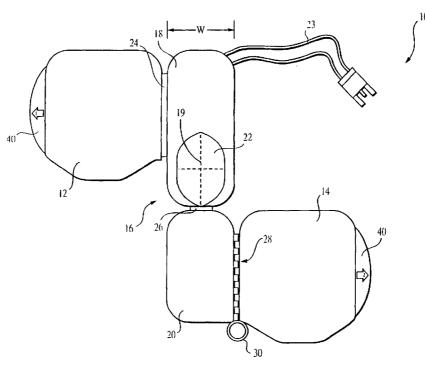
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[Continued on next page]

(54) Title: ELECTRODE ASSEMBLIES



(57) Abstract: Electrode assemblies (10) are provided, in which a pair of electrodes (12, 14) is joined by a central member (16) including a CPR pad (22). In some embodiments, the electrode assemblies are foldable, and are configured to facilitate correct placement on a patient's chest. Some electrode assemblies include a separable electrode (14), allowing the electrode assembly to be fitted to patients having particularly large chests.



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European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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International application No.

PCT/US02/28812

| A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : A61N 1/05 | | | | |
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| US CL: 607/142 According to International Patent Classification (IPC) or to both national classification and IPC | | | | |
| B. FIELDS SEARCHED | | | | |
| Minimum documentation searched (classification system followed by classification symbols) U.S.: 600/372, 386, 389, 393; 607/4-5, 115, 142, 142, 148, 149, 152-153 | | | | |
| Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched | | | | |
| Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) | | | | |
| | UMENTS CONSIDERED TO BE RELEVANT | | | |
| Category * | Citation of document, with indication, where a | | Relevant to claim No. | |
| X - Y | US 6,178,357 B1 (GLINER et al.) 23 January 200 | 1 (23.01.2001), whole document. | 1-8, 15-17, 21-22, 44- 46, 54-55, 57, 62-64 | |
| X , E Y | US 6,463,327 B1 (LURIE et al.) 08 October 2002 | (08.10.2002), Figs. 1-5A, 7. | 9, 26, 46, 52 1-8, 15-17, 21, 22, 24, 44-45, 49-51, 54-55, 57, 62-64 | |
| Х Ү Ү, Р | US 6,101,413 A (OLSON et al.) 08 August 2000 (08.08.2000) whole document. US 6,259,939 B1 (ROGEL) 10 July 2001 (10.07.2001), Fig. 4. US 6,390,996 B1 21 May 2002 (21.05.2002), Col. 2, lines 44-53, Col. 6, lines 11-19. | | 9, 26 1-5, 14-17, 21, 44-45, 48-51, 55-57, 62-63 46, 52 9, 26 | |
| Further | documents are listed in the continuation of Box C. | See patent family annex. | | |
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INTERNATIONAL SEARCH REPORT

PCT/US02/28812

| Continuation of Item 4 of the first sheet: The title is not precise. | | | | |
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| New Title: DEFIBRILLATION ELECTRODE ASSEMBLIES INCLUDING CPR PAD. | | | | |
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