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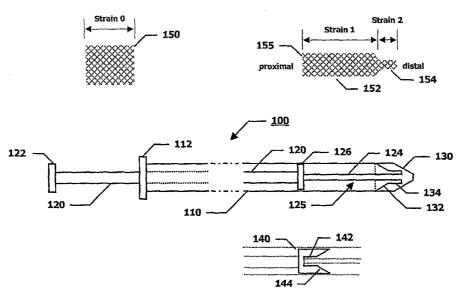
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(54) Title: SHAPE MEMORY ALLOY ENDOPROSTHESIS DELIVERY SYSTEM



(57) Abstract: A method for preparing a shape memory alloy endoprosthesis, displaying strain induced martensite phenomenon, for delivery includes inserting a shape memory alloy endoprosthesis into a delivery device, inducing a first strain within a first region of the endoprosthesis, inducing a second strain within a second region of the endoprosthesis, and sterilizing the delivery device while maintaining the first strain and the second strain induced within the shape memory endoprosthesis. In accordance with other embodiments of the present invention, an apparatus for delivering a shape memory alloy endoprosthesis includes an inner core having a first diameter, an outer body having a second diameter greater than the first diameter, and a calibrated end cap attached to the inner core. The outer body surrounds the inner core, and the calibrated end cap includes a roof section having a third diameter greater than the first diameter and less than the second diameter.

INTERNATIONAL SEARCH REPORT

International application No.

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| Minimum documentation searched (classification system followed by classification symbols) U.S.: 623/001.110 | | | | |
| 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) | | | | |
| C. DOCUMENTS CONSIDERED TO BE RELEVANT | | | | |
| Category * | Category * Citation of document, with indication, where appropriate, of the relevant passages | | | Relevant to claim No. |
| х | US 5,989,280 A (EUTENEUER et al) 23 November 1999 (23.11.2999), column 11, lines 10-16. Figure 1. | | | 1-19, 24 |
| у | US 6,533,805 B1 (Jervis) 18 March 2003 (18.3.2003), columns 1-8 | | | 25-29 |
| x | US 5,484,444 A (BRAUNSCHWEILER et al) 16 January 1996 (16.1.1996), figures 1 and | | | 11-14, 20-23 |
| <u></u> у | 2. | | | 25-29 |
| | | | See notest family approv | |
| Further documents are listed in the continuation of Box C. | | <u>"T"</u> | See patent family annex. | ernational filing date or priority |
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