



US005609627A

United States Patent [19]

[11] Patent Number: **5,609,627**

Goicoechea et al.

[45] Date of Patent: **Mar. 11, 1997**

[54] **METHOD FOR DELIVERING A BIFURCATED ENDOLUMINAL PROSTHESIS**

FOREIGN PATENT DOCUMENTS

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[21] Appl. No.: **317,763**

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[22] Filed: **Oct. 4, 1994**

Dotter et al., "Transluminal Expandable Nitinol Coil Stent Grafting: Preliminary Report", *Technical Developments and Instrumentation, Radiology*, vol. 147, pp. 259-260 (Apr. 1983).

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 312,881, Sep. 27, 1994.

Schetky, "Shape-Memory Alloys", pp. 74-82.

[30] **Foreign Application Priority Data**

Feb. 9, 1994 [EP] European Pat. Off. 94400284
Jun. 10, 1994 [EP] European Pat. Off. 94401306

K. Otsuka et al., "Shape-Memory Alloys-Pseudoelasticity", *Metals Forum*, vol. 4, No. 3, pp. 142-152 (1981).

[51] **Int. Cl.⁶** **A61F 2/06**

Cragg et al., "Nonsurgical Placment of Arterial Endoprostheses: A New Technique Using Nitinol Wire", *Radiology*, vol. 147, No. 1, pp. 261-263 Apr. 1983).

[52] **U.S. Cl.** **623/1; 606/108; 606/194**

Cragg, et al., "Percutaneous Arterial Grafting", *Radiology*, vol. 150, No. 1, pp. 45-49 (1984).

[58] **Field of Search** **623/1, 12; 606/108, 606/191, 194; 604/96**

T. W. Duerig et al., "An Engineer's Perspective of Pseudoelasticity", pp. 369-393.

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[56] **References Cited**

[57] **ABSTRACT**

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The invention comprises:

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An introducer for delivering into the vasculature a straight or bifurcated stent or prosthesis; a method for delivering into the vasculature a straight or bifurcated stent or prosthesis; a method of treating and angeological disease using a bifurcated stent; an endoluminal stent having perpendicular hoop members, each hoop member formed of wire in a sinuous configuration, at least some of juxtaposed apices in neighboring hoops being secured to one another, such stents also forming axially aligned segments in straight stents, and segments of bifurcated stents in particular embodiments. Certain embodiments of such stents also include barbs, fabric covering and radiopaque markers.

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2 Claims, 23 Drawing Sheets

