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Flomenblit et al.

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[54] **TWO WAY SHAPE MEMORY ALLOY MEDICAL STENT**

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[57] **ABSTRACT**

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A stent for placing in a tubular organ so as to support its diameter to remain above a critical diameter. The stent comprises a spiral coil or cylinder made of a two-way shape memory alloy and has a super-elastic state in which the stent's diameter is at least about the critical diameter or more but within a physiological range tolerated by the organ and having a soft state in which the stent's diameter, after changing to this state from the super-elastic state, which is less than the critical diameter. The shape memory alloy has two transition temperatures being within a range that will not damage biological tissue, of which a first transition temperature is a temperature in which it changes from the soft state to the super-elastic state and of which a second transition temperature is a temperature in which it changes from the super-elastic state to the soft state. The arrangement being such that after changing into one of the two states, the stent remains in that state at body temperature.

[22] Filed: **May 20, 1994**

[30] **Foreign Application Priority Data**

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[52] **U.S. Cl.** **604/281; 604/104; 606/198;**
623/1; 623/11

[58] **Field of Search** 604/281, 104,
604/890.1; 606/191, 198, 108; 623/1, 11,
900

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11 Claims, 4 Drawing Sheets

