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Boyle et al.

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[54] **BIDIRECTIONAL DUAL SINUSOIDAL HELIX STENT**

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[57] ABSTRACT

[21] Appl. No.: **426,310**

A method apparatus for a radially expandable stent for implantation within a body vessel, comprising a first wire formed winding and a second wire formed winding. The first wire formed winding has a hollow cylindrical shape including a preformed pattern such as a sinusoidal wave form and being wound into a continuous helix the length of the stent. The second wire formed winding has a hollow cylindrical shape including a preformed pattern such as a sinusoidal wave form and being wound into a continuous helix the length of the stent. The second winding helix is opposite that of the first winding helix. The second winding has a greater inner diameter than the outer diameter of the first winding. The second winding is coaxial with the first winding, the pattern of the first winding symmetrically intersects with the pattern of the second winding to form a uniform series of crossings thereby permitting even expansion of the first and second windings. The proximal end of the first winding may be attached to the proximal end of the second winding. The distal end of the first winding may be attached to the distal end of the second winding. An expandable member within the first winding to expand the first and second winding is included.

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[51] **Int. Cl.⁶** **A61M 29/00**

[52] **U.S. Cl.** **606/198; 606/195**

[58] **Field of Search** 623/1, 12; 606/192, 606/194, 195, 198

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23 Claims, 4 Drawing Sheets

