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Fordenbacher

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[54] **EXPANDABLE STENT USING SLIDING MEMBERS**

0382014A1 7/1990 European Pat. Off. .

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Publication: "Intravascular Stents to Prevent Occlusion and Restenosis After Transluminal Angioplasty", New England Journal of Medicine, vol. 316, No. 12, Mar. 19, 1987, pp. 701-706.

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[57] ABSTRACT

[51] Int. Cl.⁶ **A61F 2/06; A61M 29/00**
[52] U.S. Cl. **623/1; 606/198**
[58] Field of Search **606/198, 191; 623/1, 12**

The present invention provides a lumen support device, or a stent, used to open or expand a body lumen. The stent incorporates elongated parallel stent components with circumferential members, fingers, which weave into paired slots of an adjacent stent component. This weave-like interlocking configuration enables the stent to expand radially without yielding or plastically deforming the material of which the stent is fabricated. The weave-like mechanism allows for uniform, smooth expansion without change in longitudinal dimensions of the complete assembly. Once assembled, the plurality of parallel elongated stent components form a cylindrical configuration. The invention provides a stent able to support body lumens and adapt to curves or irregularities in body lumens without losing its formation or its longitudinal dimensions. It is designed to permit flexing both radially and longitudinally to conform to the curved body of the applicable lumen. The device is delivered using a percutaneous transluminal catheter device which may incorporate an inflatable balloon, self-expanding material or both to expand the stent.

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25 Claims, 4 Drawing Sheets

