

[54] PERCUTANEOUS ENDOVASCULAR STENT AND METHOD FOR INSERTION THEREOF

[75] Inventor: Cesare Gianturco, Champaign, Ill.

[73] Assignee: Cook, Incorporated, Bloomington, Ind.

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[56] References Cited

U.S. PATENT DOCUMENTS

3,334,629	8/1967	Cohn	128/325
3,540,431	11/1970	Mobin-Uddin	128/325
3,774,596	11/1973	Cook	128/345
3,811,449	5/1974	Gravlee et al.	128/343
3,868,956	3/1975	Alfidi et al.	128/345
4,141,364	2/1979	Schultze	604/96
4,407,271	10/1983	Schiff	604/104
4,425,908	1/1984	Simon	128/1 R

FOREIGN PATENT DOCUMENTS

894257	12/1981	U.S.S.R.	267/182
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OTHER PUBLICATIONS

Charles T. Dotter, "Trans. . . . Tube Graft", 329-332, Investigative Radiology 9-1969.

Carlos T. Potter, "Trans. . . . Stint Grafing", Technical Developments, 4-1983.

Andrew Cragg, "Nonsurgical . . . Nitind Wire", 261-263, Radiology, 4-1983.

Morris Simons, "Vena Cava . . . Memory Alloy", 89-94, Radiology, 10-1977.

Primary Examiner—Robert P. Swiatek

Assistant Examiner—John G. Weiss

Attorney, Agent, or Firm—Woodard, Weikart, Emhardt & Naughton

[57] ABSTRACT

An endovascular stent formed of stainless steel wire of 0.018 inches diameter and arranged in a closed zig-zag pattern. The stent is compressed into a reduced size shape of an outer diameter which is many times smaller than its expanded shape. The stent is positioned in a passageway in the vascular system by means of a sheath while the stent is retained in the compressed reduced size shape. A flat-ended catheter is used through the sheath to hold the stent in place in the passageway while the sheath is withdrawn from the passageway allowing the stent to expand in the passageway into its expanded shape to hold the passageway open and enlarged. Other possible applications of the stent are in the respiratory, biliary and urinary tracts to reinforce collapsing structures.

10 Claims, 10 Drawing Figures

