



United States Patent [19] Lunn

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- [54] **BI-DIRECTIONAL CRIMPED GRAFT** 5,306,294 4/1994 Winston et al. 623/1
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- [75] **Inventor:** Anthony C. Lunn, Princeton, N.J.
- [73] **Assignee:** Ethicon, Inc., Somerville, N.J.
- [21] **Appl. No.:** 193,314
- [22] **Filed:** Feb. 8, 1994
- [51] **Int. Cl.⁶** A61F 2/06
- [52] **U.S. Cl.** 623/1; 623/9; 623/12
- [58] **Field of Search** 623/1, 12, 9; 606/192,
606/194, 195, 197

Primary Examiner—David H. Willse
Assistant Examiner—Bruce E. Snow
Attorney, Agent, or Firm—Paul A. Coletti

[57] **ABSTRACT**

This invention relates to a graft for placement in a body passageway. The graft comprises a longitudinally extending thin walled cylinder having first and second open ends. The graft is divided into first and second axially extending end portions adjacent such open ends and an axially extending central portion therebetween. The walls of the central portion are provided with circumferential crimps and the wall of the end portions are provided with axially extending crimps whereby the central portion can be extended longitudinally to vary the distance between the end portions and the end portions may be expanded radially to vary the diameter of the end portions. In preferred embodiment the end portions have a greater diameter than the central portion imparting to the graft a somewhat dumbbell like shape preferable in employing the graft in the reduced diameter lumen of a diseased blood vessel.

[56] **References Cited**

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21 Claims, 4 Drawing Sheets

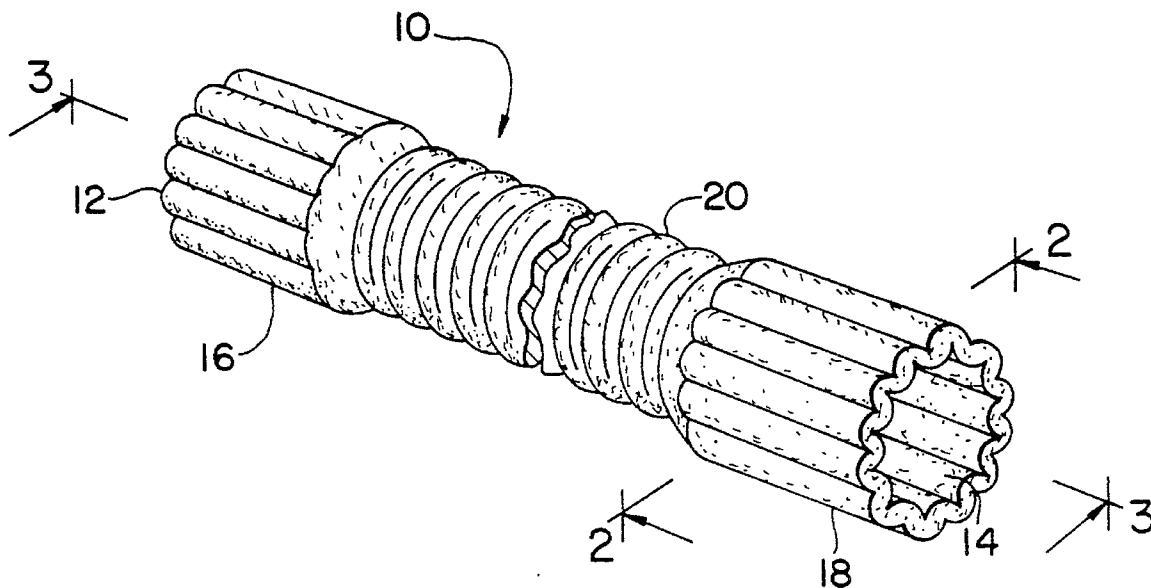
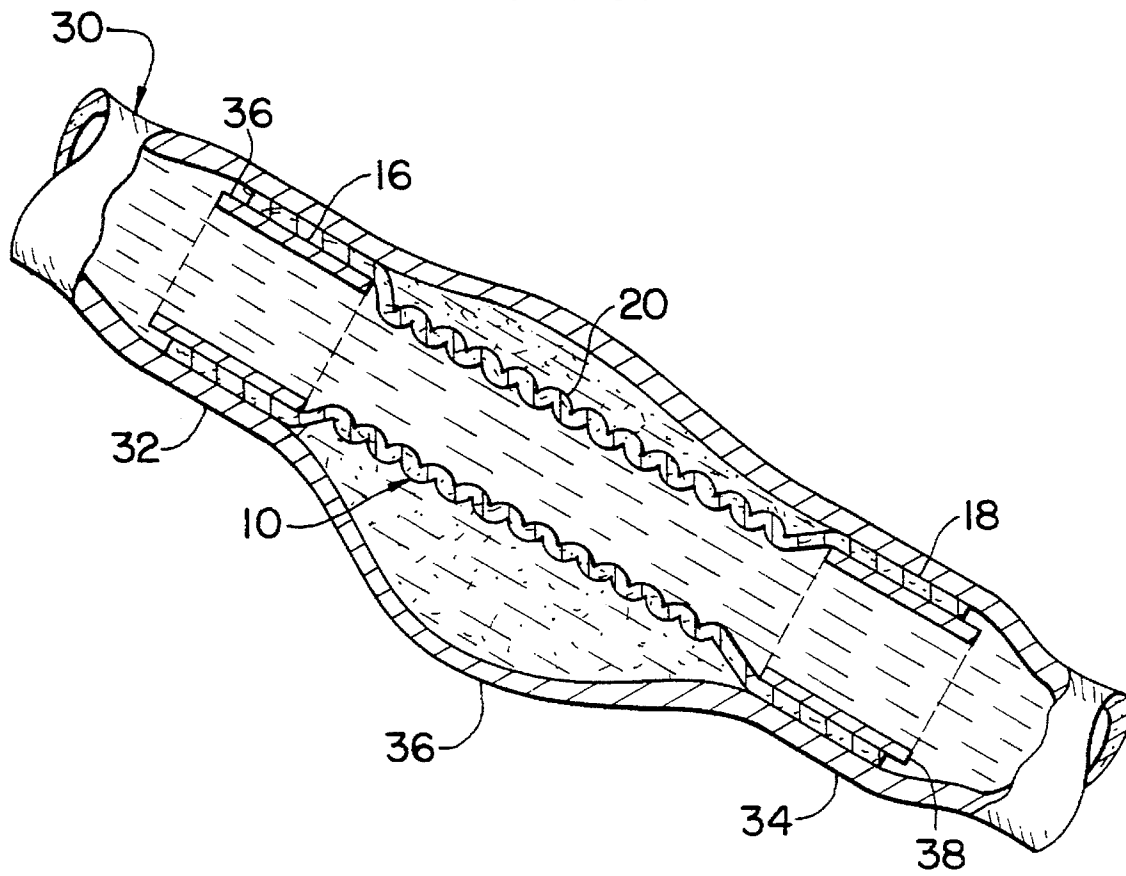


FIG. 4



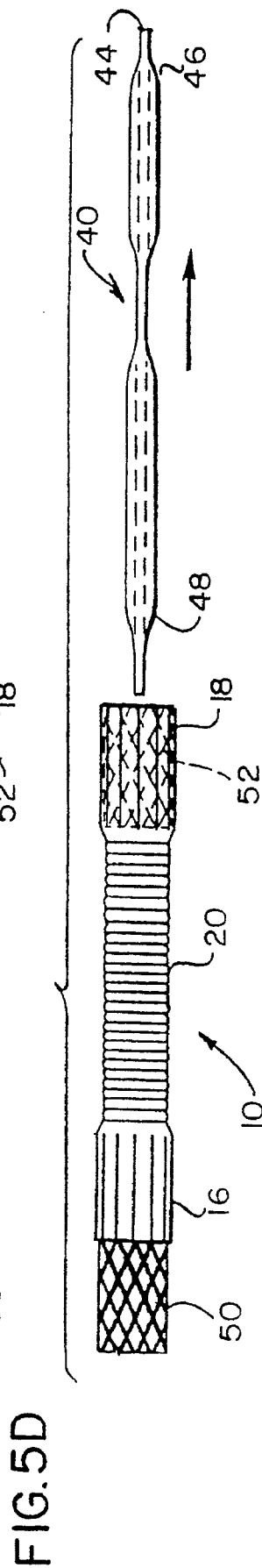
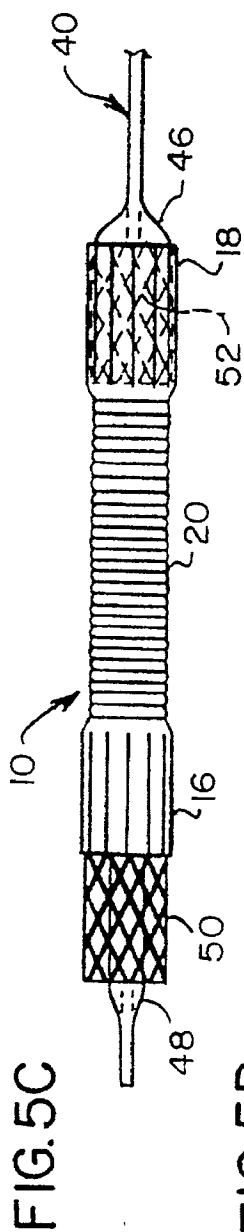
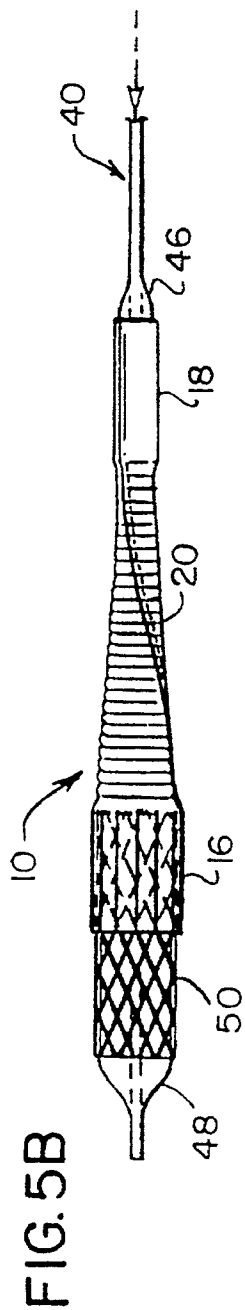
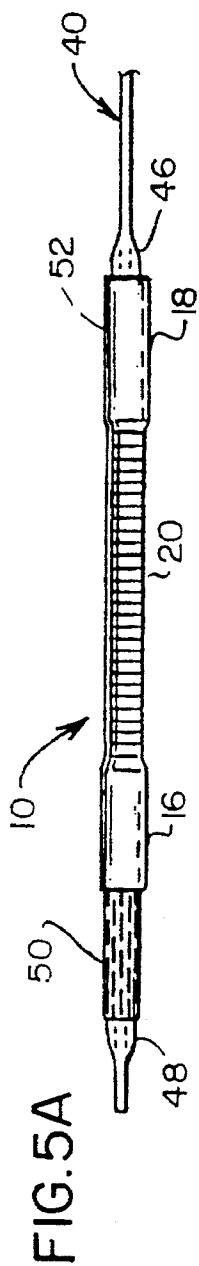


FIG. 6A

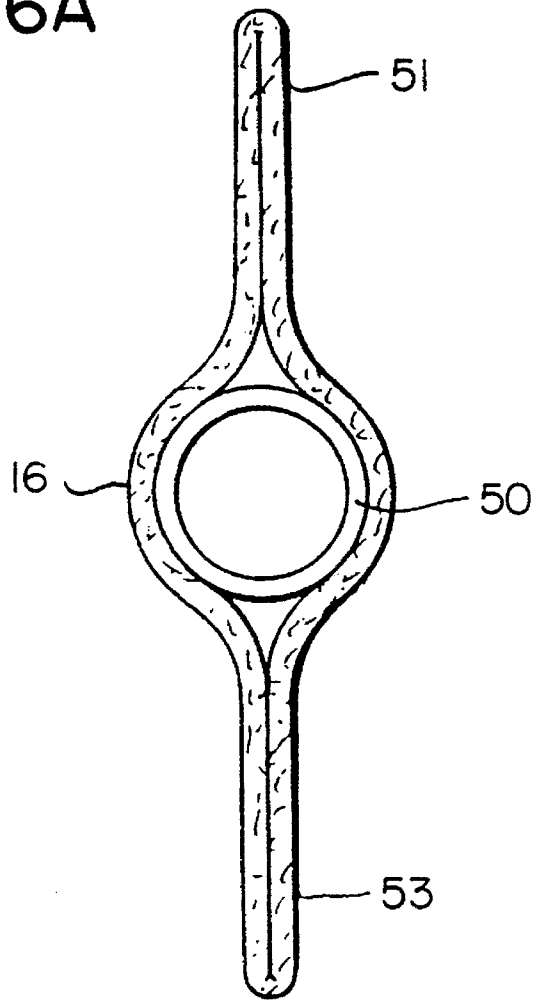
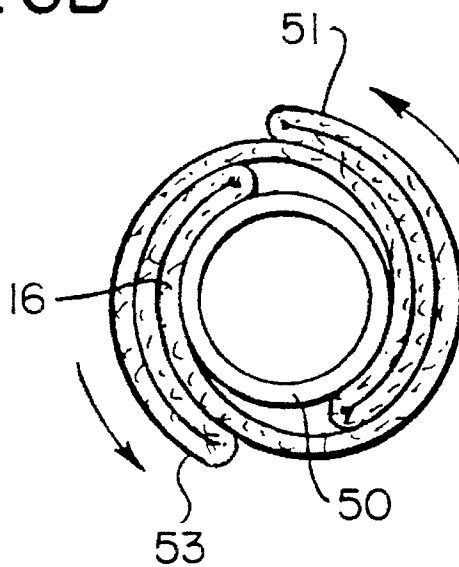


FIG. 6B



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