



US005840081A

United States Patent [19]
Andersen et al.

[11] **Patent Number:** **5,840,081**
[45] **Date of Patent:** **Nov. 24, 1998**

[54] **SYSTEM AND METHOD FOR IMPLANTING CARDIAC VALVES**

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[21] Appl. No.: **801,036**
[22] Filed: **Feb. 19, 1997**

Related U.S. Application Data

[63] Continuation of Ser. No. 569,314, Dec. 8, 1995, abandoned, which is a continuation of Ser. No. 352,127, Dec. 1, 1994, abandoned, which is a division of Ser. No. 261,235, Jun. 14, 1994, Pat. No. 5,411,552, which is a continuation of Ser. No. 961,891, filed as PCT/DK91/00134 May 16, 1991 published as WO91/17720 Nov. 28, 1991, abandoned.

[30] **Foreign Application Priority Data**

May 18, 1990 [DK] Denmark 1246/90

[51] **Int. Cl.⁶** **A61F 2/24**

[52] **U.S. Cl.** **623/2; 606/108**

[58] **Field of Search** **623/2, 900; 606/108; 600/36**

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8 Claims, 4 Drawing Sheets

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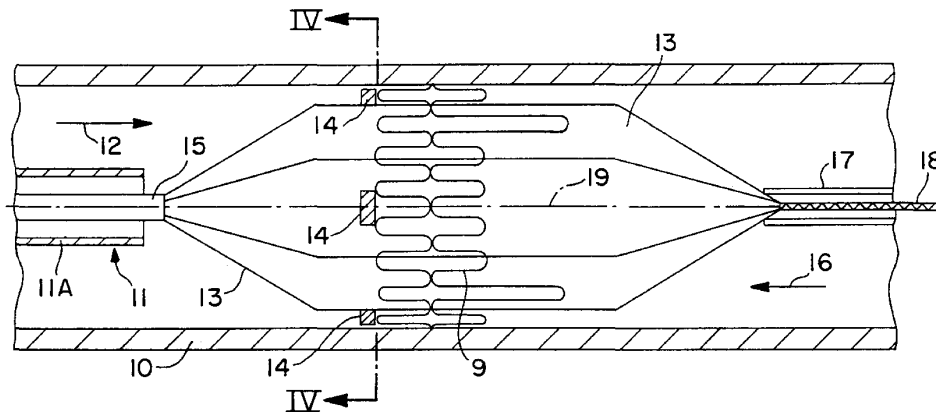
Primary Examiner—David H. Willse
Attorney, Agent, or Firm—Jeffrey J. Grainger; Jens E. Hoekendijk; Michael J. Lynch

[57] **ABSTRACT**

A valve prosthesis (9) for implantation in the body by use of catheter (11) comprises a stent made from an expandable cylinder-shaped thread structure (2,3) comprising several spaced apices (4). The elastically collapsible valve (4) is mounted on the stent as the commissural points (5) of the valve (6) are secured to the projecting apices (4).

The valve prosthesis (9) can be compressed around the balloon means (13) of the balloon catheter (11) and be inserted in a channel, for instance in the aorta (10). When the valve prosthesis is placed correctly the balloon means (13) is inflated thereby expanding the stent and wedging it against the wall of aorta. The balloon means is provided with beads (14) to ensure a steady fastening of the valve prosthesis on the balloon means during insertion and expansion.

The valve prosthesis (9) and the balloon catheter (11) make it possible to insert a cardiac valve prosthesis without a surgical operation comprising opening the thoracic cavity.



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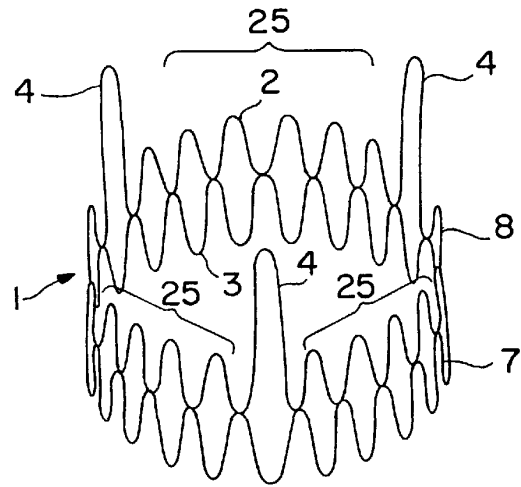


FIG. 1

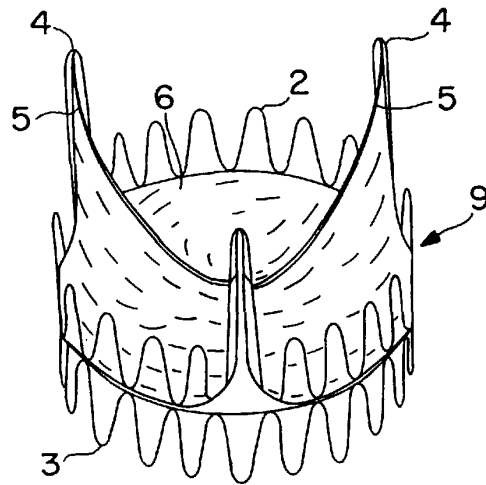


FIG. 2

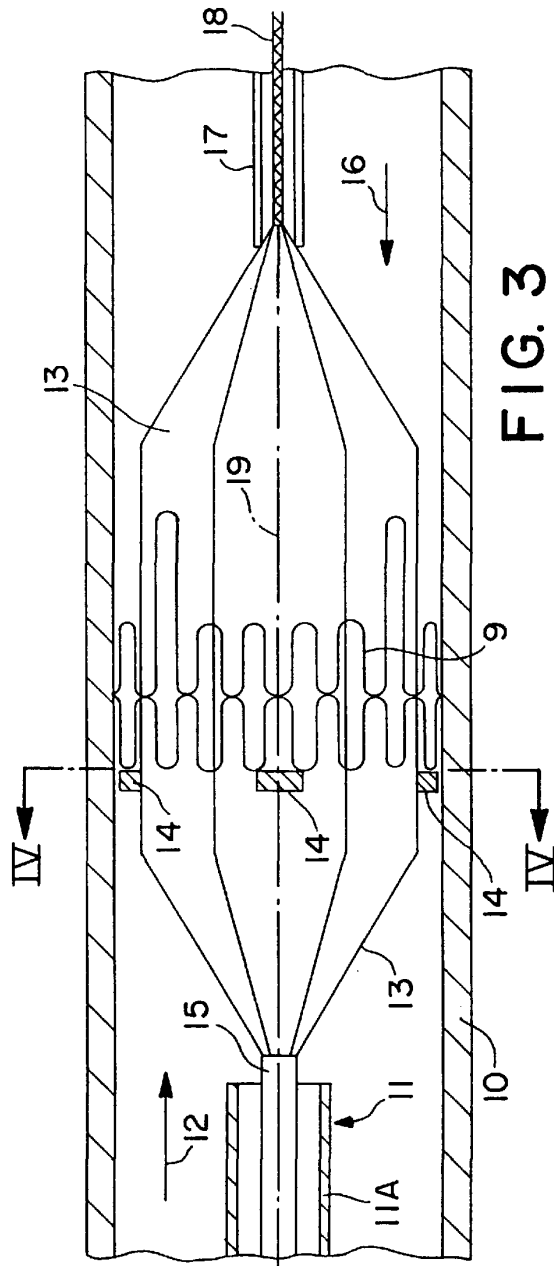


FIG. 3

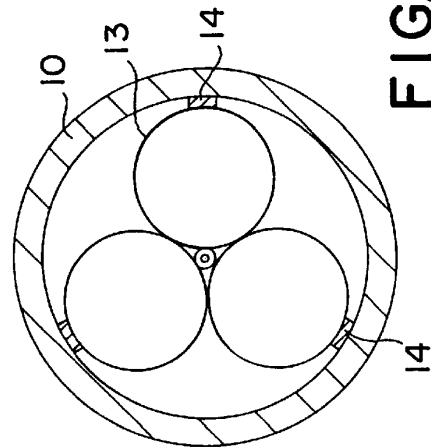


FIG. 4

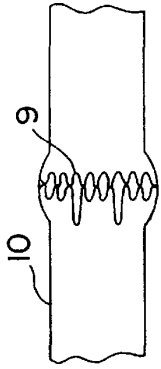


FIG. 5

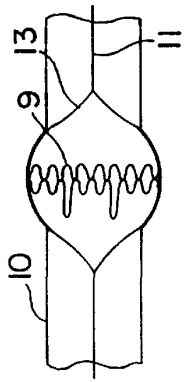


FIG. 6

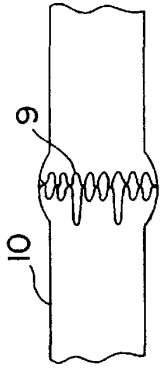


FIG. 7

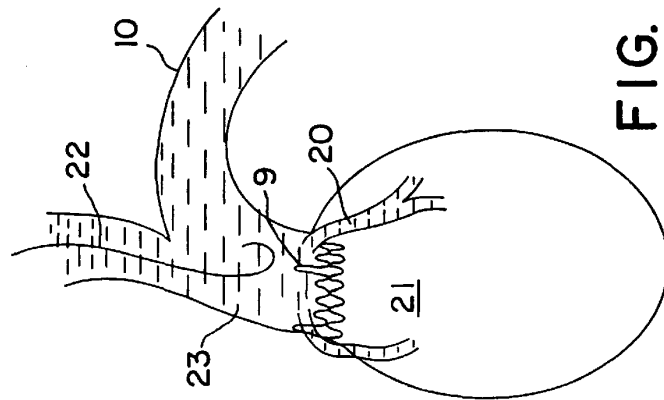


FIG. 8

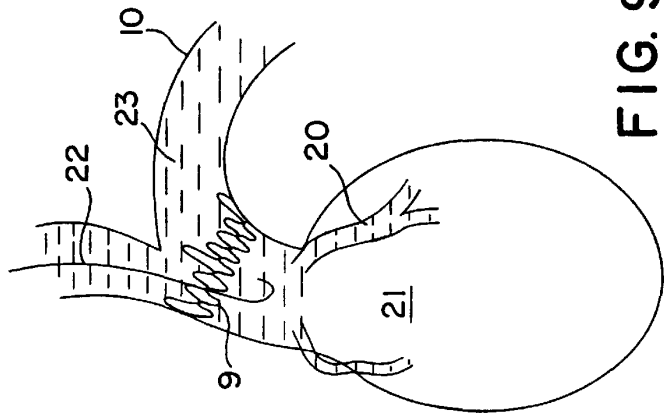


FIG. 9

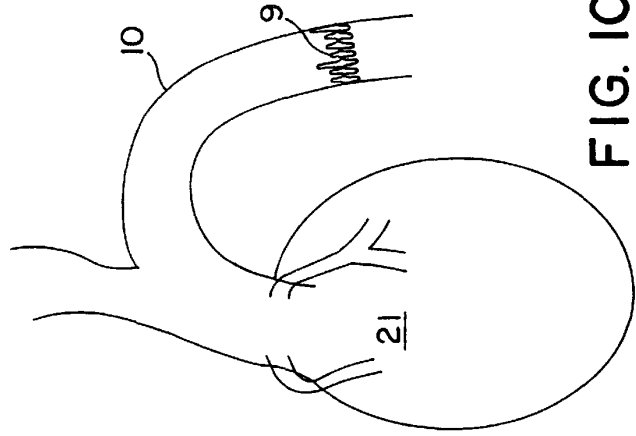


FIG. 10

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