



US005716417A

United States Patent [19]

Girard et al.

[11] Patent Number: **5,716,417**

[45] Date of Patent: **Feb. 10, 1998**

[54] **INTEGRAL SUPPORTING STRUCTURE FOR BIOPROSTHETIC HEART VALVE**

| | | | |
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| 5,258,023 | 11/1993 | Reger | 623/900 |
| 5,411,552 | 5/1995 | Andersen et al. | 623/900 |

[75] Inventors: **Michael J. Girard**, Lino Lakes; **Todd D. Campbell**, White Bear; **M. William Mirsch, II**, Roseville; **Kristen Swanson**, St. Paul, all of Minn.

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| | | | |
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| 1264471 | 2/1972 | United Kingdom | 623/2 |
| 2279134 | 12/1994 | United Kingdom | 623/2 |

[73] Assignee: **St. Jude Medical, Inc.**, St. Paul, Minn.

Primary Examiner—John G. Weiss
Assistant Examiner—Bruce E. Snow
Attorney, Agent, or Firm—Hallie A. Finucane

[21] Appl. No.: **472,744**

[22] Filed: **Jun. 7, 1995**

[57] ABSTRACT

[51] Int. Cl.⁶ **A61F 2/24**

[52] U.S. Cl. **623/900; 623/2**

[58] Field of Search **623/900, 2, 3, 623/66**

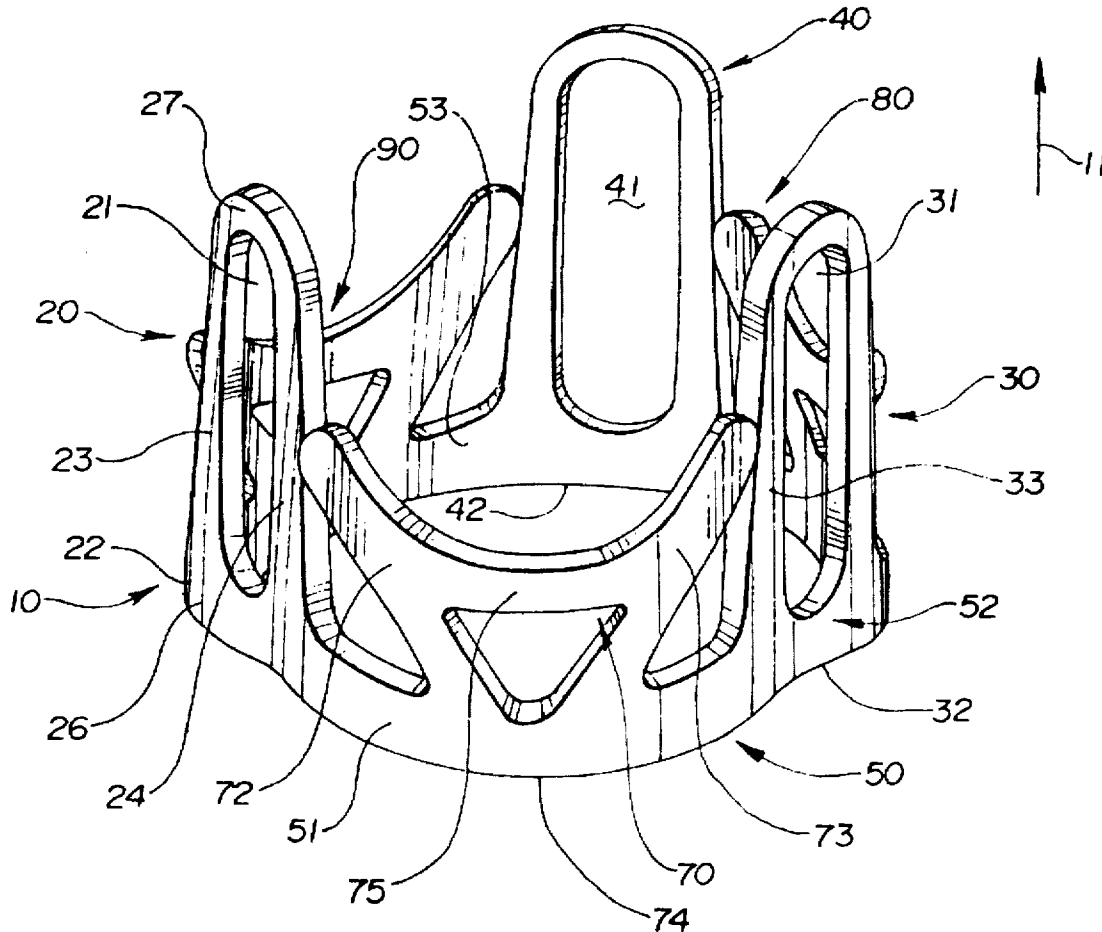
A stent for receiving and supporting a tissue heart valve for ultimate implantation into a human, the heart valve including tissue leaflets joined at circumferentially spaced commissures, wherein the stent includes at least one commissure support post and at least one sinus support structure each sinus support structure being disposed between but not functionally connected to an adjacent commissure support post.

[56] References Cited

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3 Claims, 4 Drawing Sheets



NORRED EXHIBIT 2127 - Page 1

Medtronic, Inc., Medtronic Vascular, Inc., & Medtronic

Fig. 1

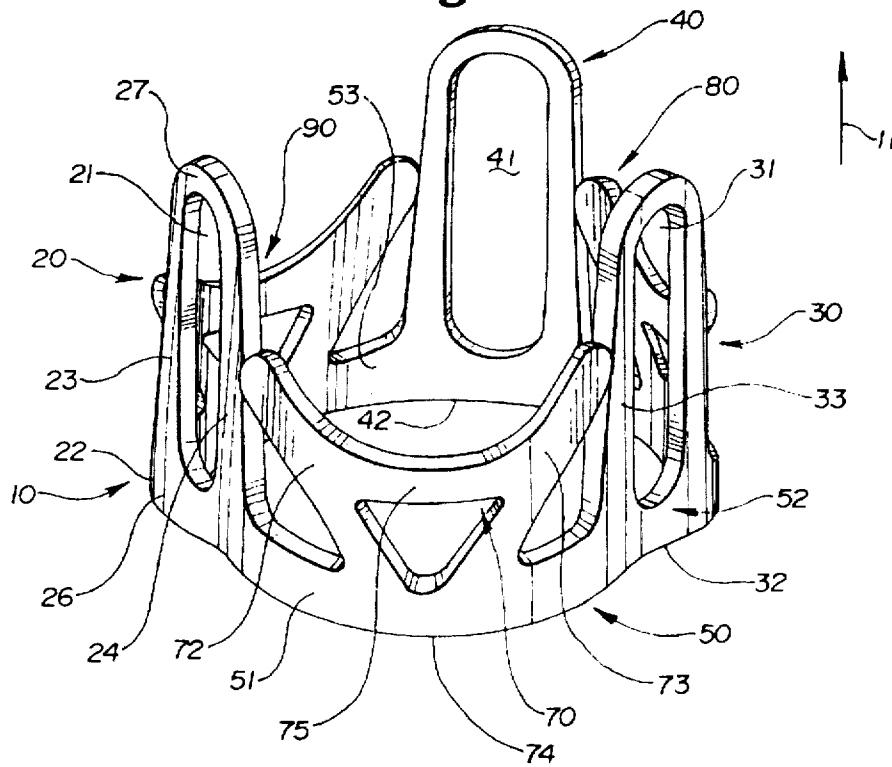


Fig. 2

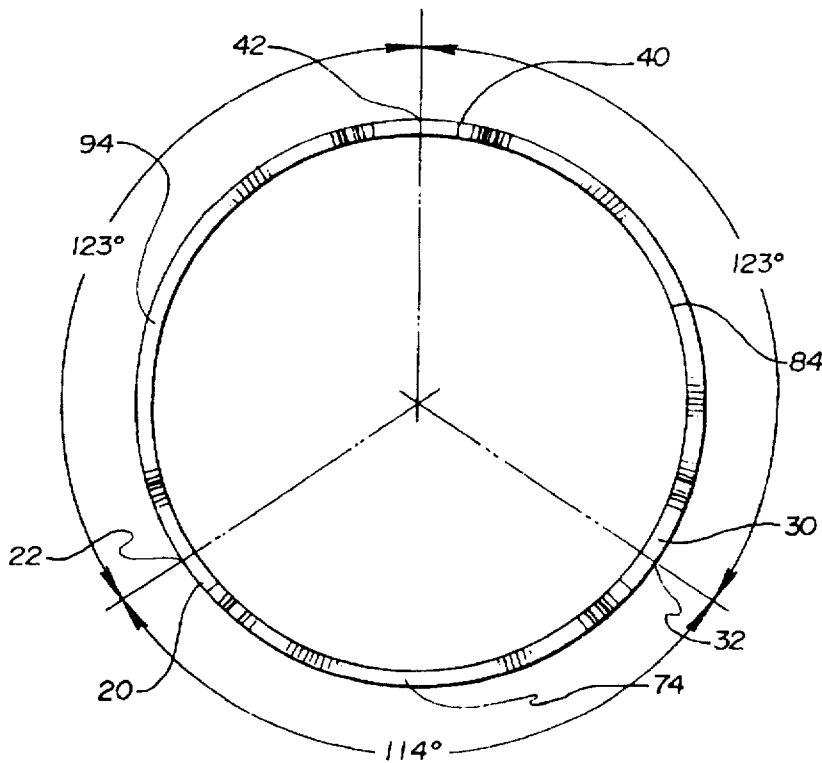


Fig. 3

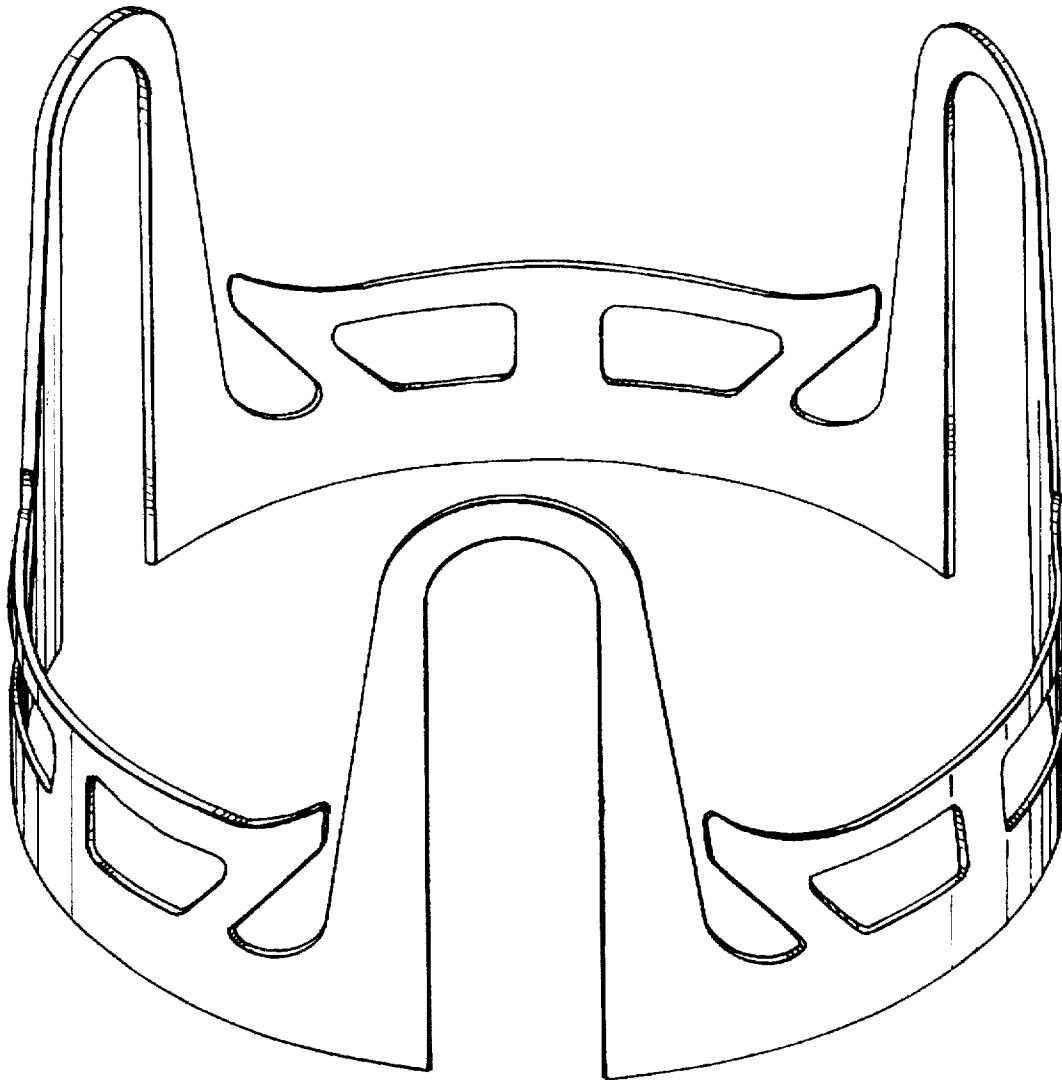


Fig. 4

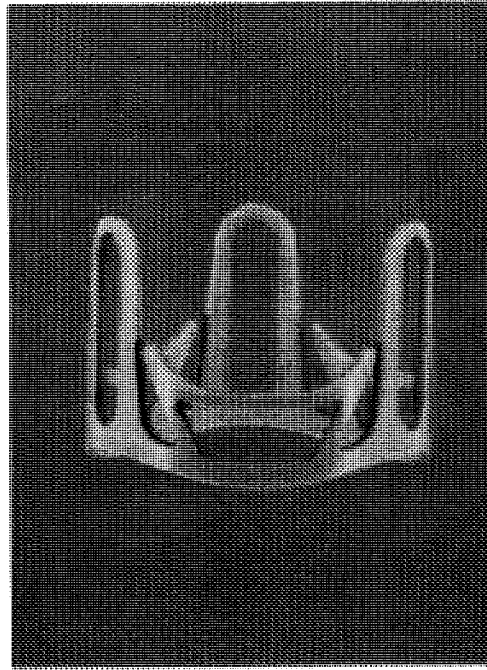


Fig. 5

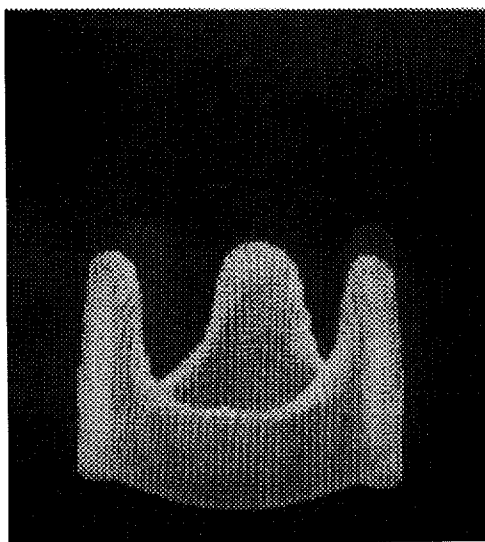
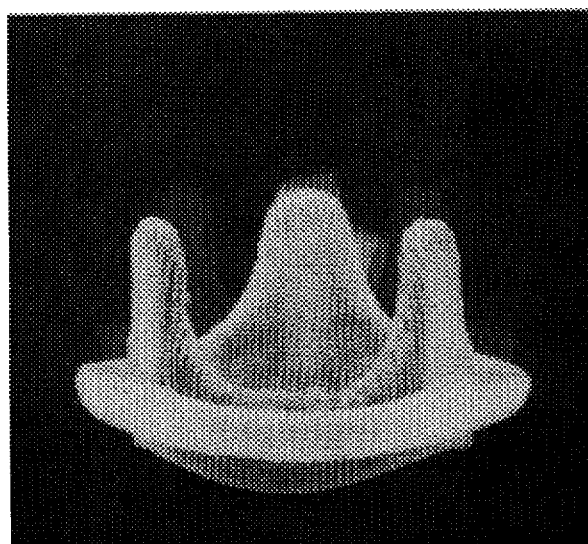


Fig. 6



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