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United States Patent [19]**Jackson et al.**[11] **Patent Number:** **6,082,990**[45] **Date of Patent:** **Jul. 4, 2000**[54] **STENT CRIMPING TOOL**[75] Inventors: **Gregg A. Jackson; Stephen A. Morales**, both of Mountain View, Calif.[73] Assignee: **Advanced Cardiovascular Systems, Inc.**, Santa Clara, Calif.

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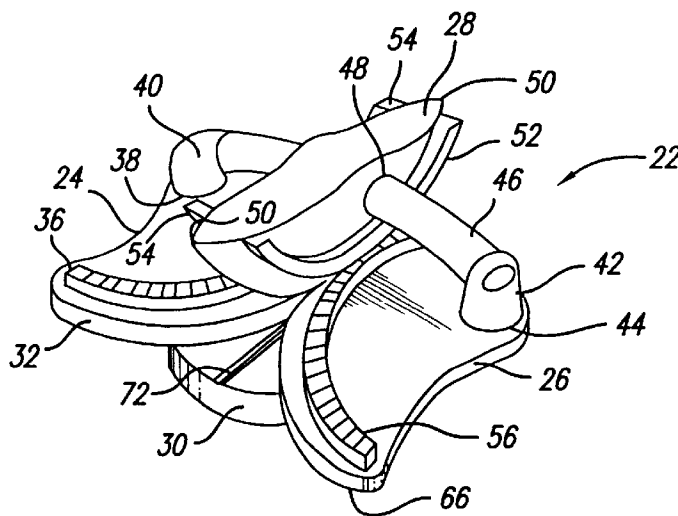
[21] Appl. No.: **09/024,910**[22] Filed: **Feb. 17, 1998**[51] **Int. Cl.**⁷ **B29C 55/22**[52] **U.S. Cl.** **425/517**; 425/329; 425/392;
425/DIG. 5; 264/249; 72/189; 72/194; 29/517;
29/283.5[58] **Field of Search** 264/249; 425/329,
425/391, 392, DIG. 5, 517; 606/1, 108;
29/282, 516, 283.5, 515, 517, 518; 72/189,
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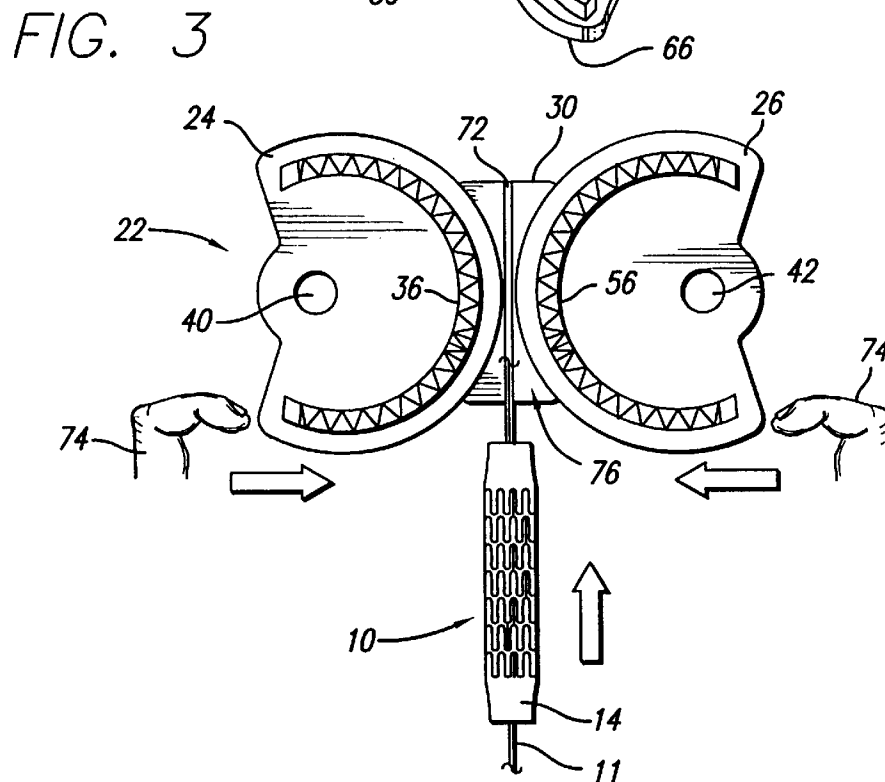
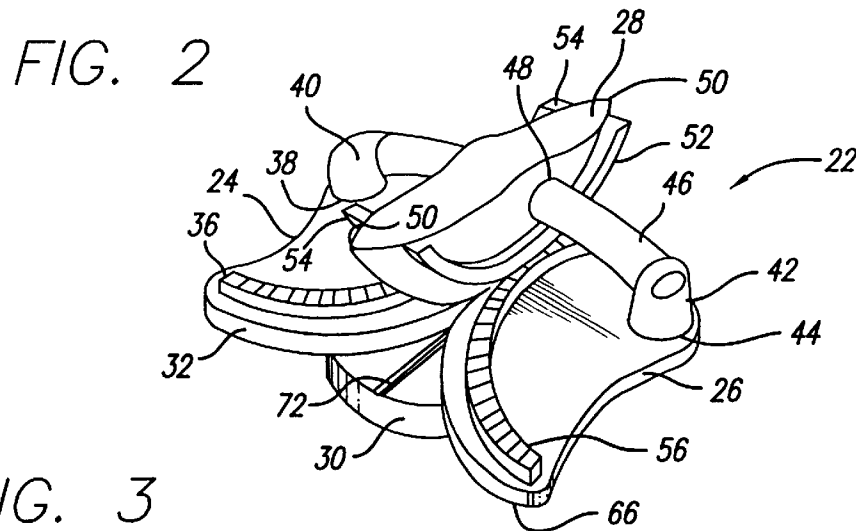
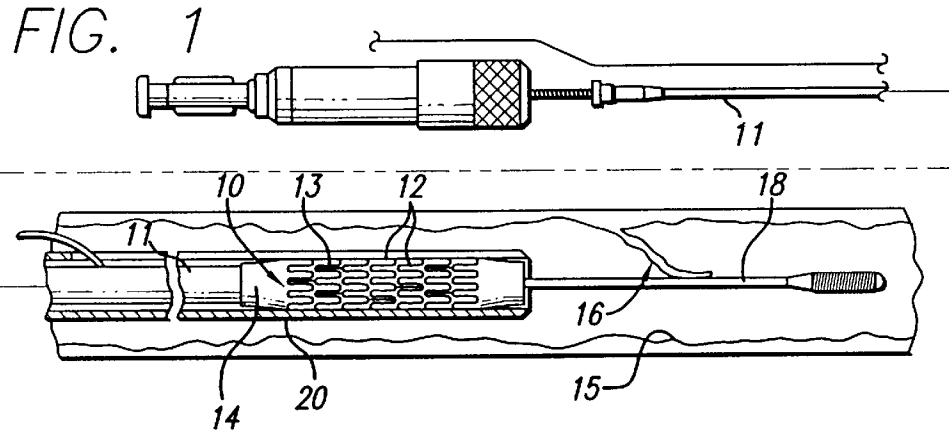
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[57]

ABSTRACT

A stent crimping tool for firmly and uniformly crimping a stent onto a balloon catheter. The stent crimping tool is constructed of three orthogonally arranged semi-circular shaped cams rotatably mounted on a common base. Two cams are disposed horizontally side-by-side and one cam is vertically disposed. Rotation of the three cams is synchronized by interacting racks on each cam. A groove is formed into the outer circumference of each cam and the three cams are arranged on the base, which also includes a groove, to collectively form an axial space in which a stent-catheter assembly is inserted. Rotation of the cams draws the uncrimped stent and catheter into the axial space in which the stent is crimped onto the balloon catheter by the compressive forces exerted by the grooves of the cams and the base.

25 Claims, 5 Drawing Sheets**Edwards Lifesciences v. Boston Scientific****U.S. Patent No. 6,915,560****IPR2017-00444 EX. 2046**



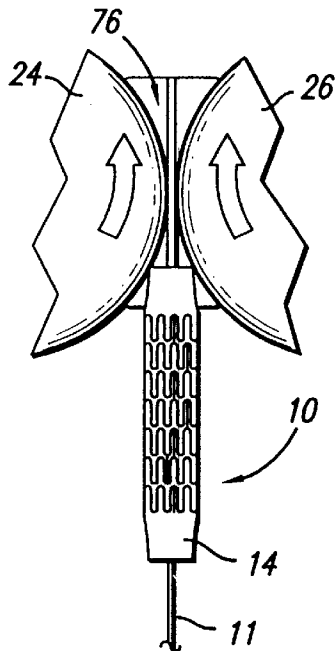


FIG. 4A

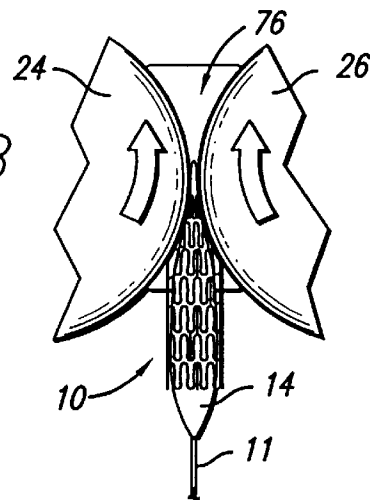


FIG. 4B

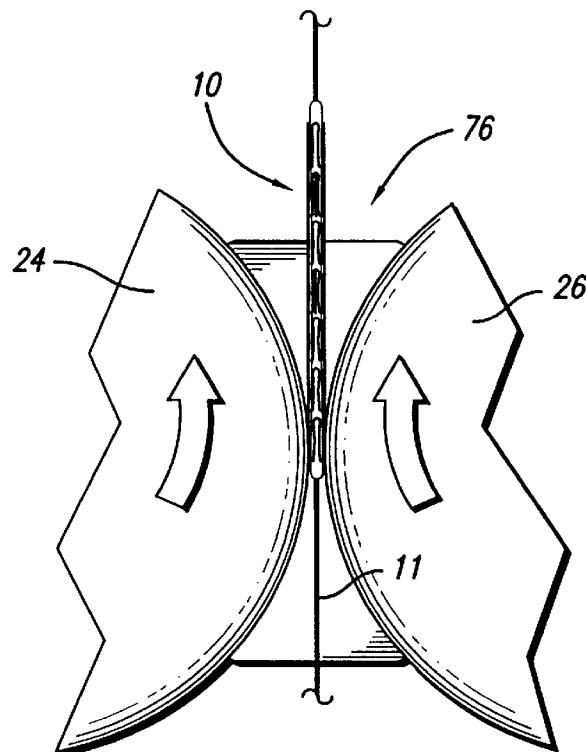


FIG. 4C

FIG. 5A

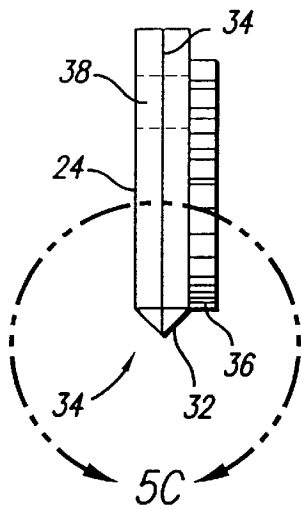


FIG. 5B

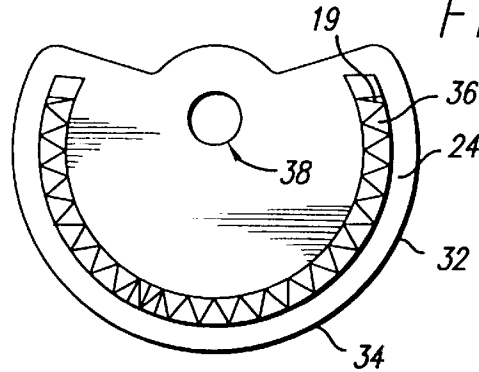


FIG. 5C

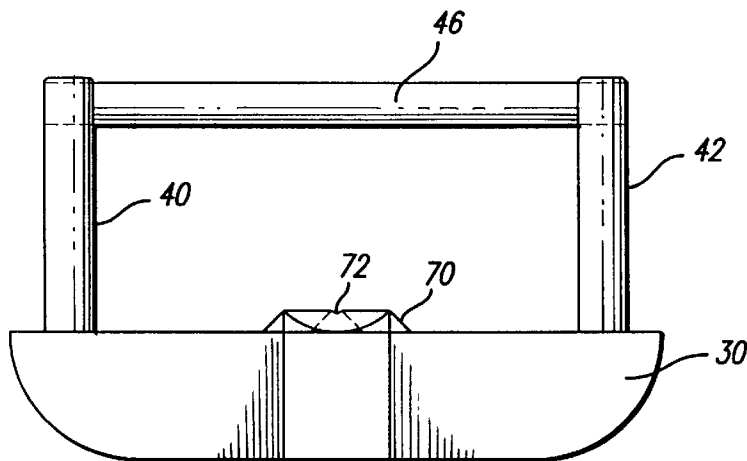
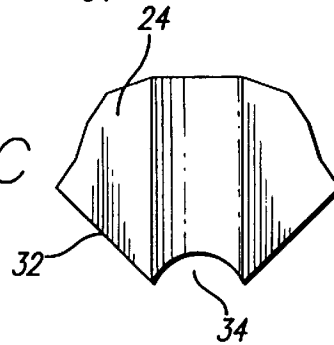


FIG. 6

FIG. 7

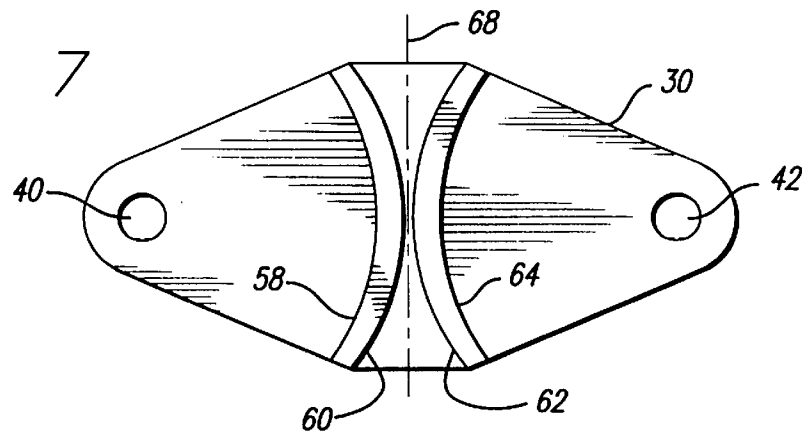


FIG. 8A

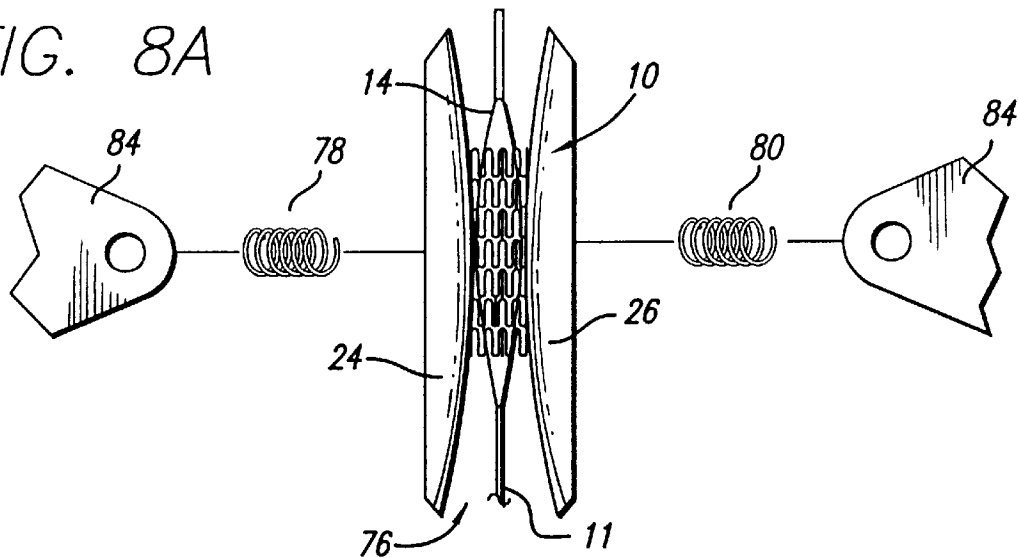


FIG. 8B

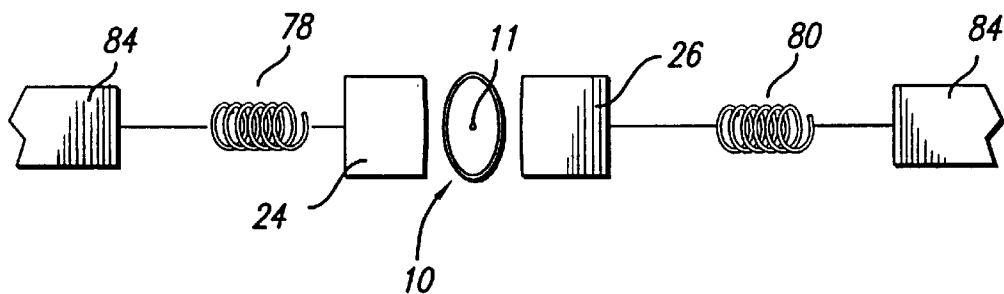
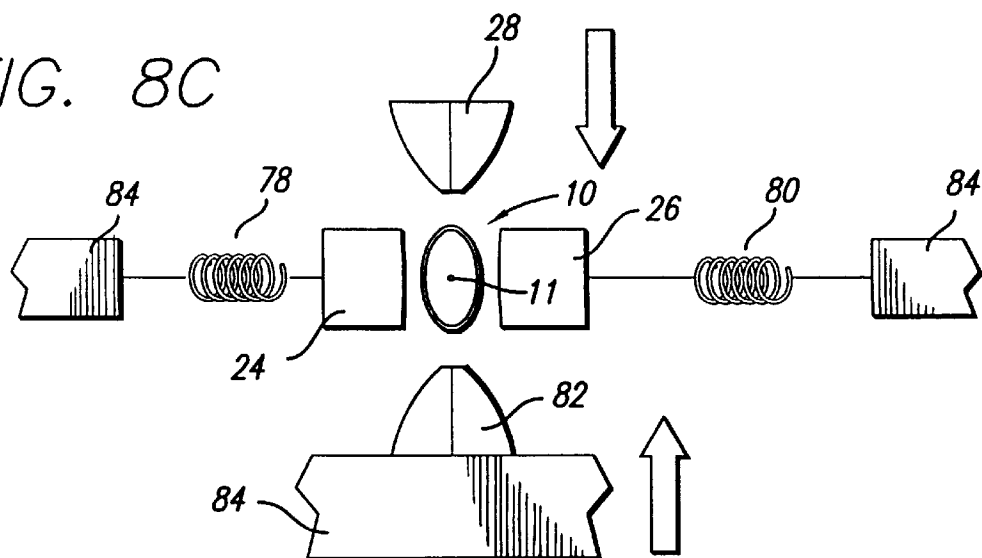


FIG. 8C



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