



US006077295A

United States Patent [19]

[11] Patent Number: **6,077,295**

Limon et al.

[45] Date of Patent: ***Jun. 20, 2000**

[54] **SELF-EXPANDING STENT DELIVERY SYSTEM**

[75] Inventors: **Timothy A. Limon**, Cupertino;
Richard J. Saunders, Redwood City,
both of Calif.

[73] Assignee: **Advanced Cardiovascular Systems, Inc.**, Santa Clara, Calif.

[*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

[21] Appl. No.: **08/680,429**

[22] Filed: **Jul. 15, 1996**

[51] Int. Cl.⁷ **A61F 2/06**

[52] U.S. Cl. **623/1; 606/108; 606/192**

[58] Field of Search **606/1, 108, 191-200; 623/1, 11, 12**

5,026,377	6/1991	Burton et al. .
5,034,001	7/1991	Garrison et al. .
5,035,706	7/1991	Gianturco et al. .
5,037,392	8/1991	Hillstead .
5,037,427	8/1991	Harada et al. .
5,041,126	8/1991	Gianturco .
5,059,166	10/1991	Fischell et al. .
5,061,275	10/1991	Wallsten et al. .
5,064,435	11/1991	Porter .
5,071,407	12/1991	Termin et al. .
5,078,720	1/1992	Burton et al. .
5,089,005	2/1992	Harada .
5,089,006	2/1992	Stiles .
5,092,877	3/1992	Pinchuk .
5,108,416	4/1992	Ryan et al. .
5,123,917	6/1992	Lee .
5,135,517	8/1992	McCoy .
5,158,548	10/1992	Lau et al. .
5,163,952	11/1992	Froix .
5,163,958	11/1992	Pinchuk .
5,171,262	12/1992	MacGregor .
5,183,085	2/1993	Timmermans .

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

2102019	5/1994	Canada .
0 556 940	8/1993	European Pat. Off. .
0 596 145	5/1994	European Pat. Off. .
90 10 130 U	9/1990	Germany .
WO 95/33422	12/1995	WIPO .
WO 96/39998	12/1996	WIPO .

Primary Examiner—Glenn K. Dawson
Attorney, Agent, or Firm—Fulwider Patton Lee & Utecht, LLP

ABSTRACT

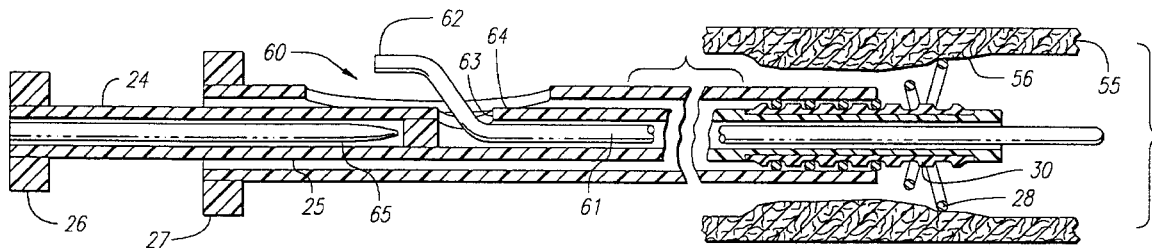
[57] A stent-delivery catheter system delivers and implants a self-expanding stent intraluminally into a human patient's body lumen. A self-expanding stent is removably attached to the distal end of an inner member so that attachment projections prevent axial movement of the stent on the inner member while the stent is being delivered and implanted in a patient's body lumen.

13 Claims, 6 Drawing Sheets

[56] **References Cited**

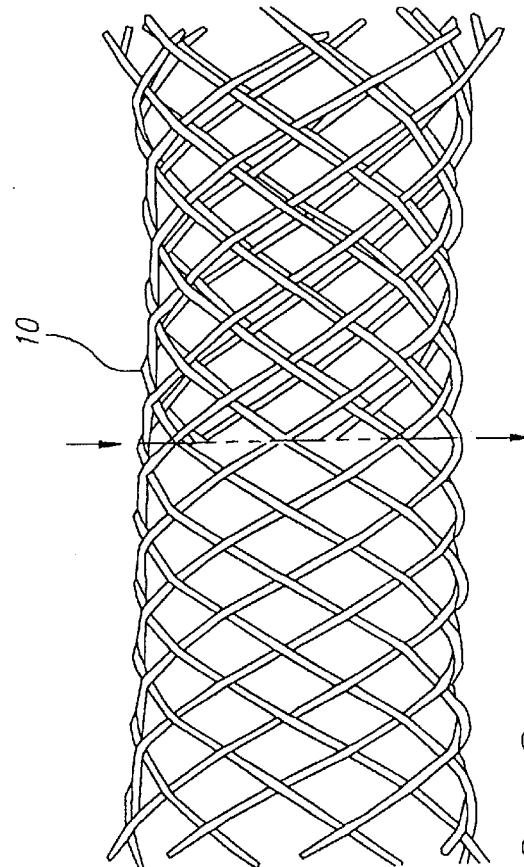
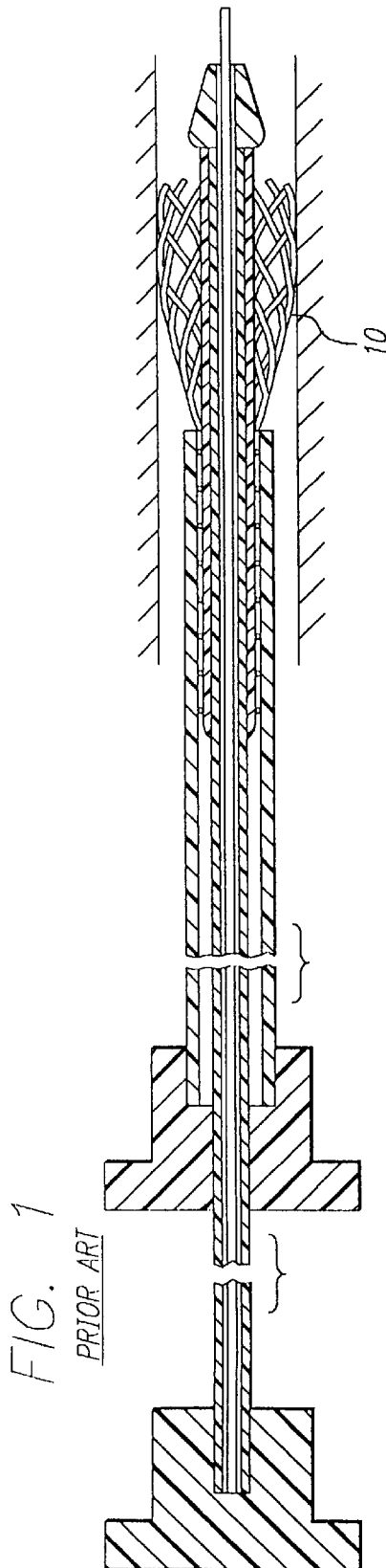
U.S. PATENT DOCUMENTS

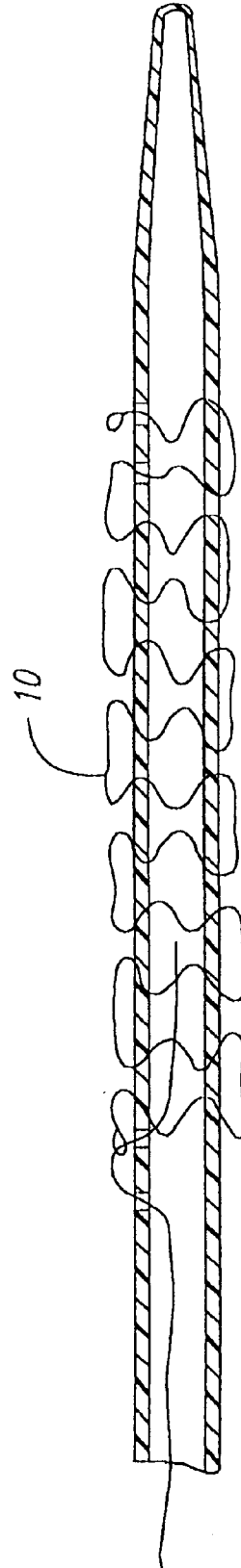
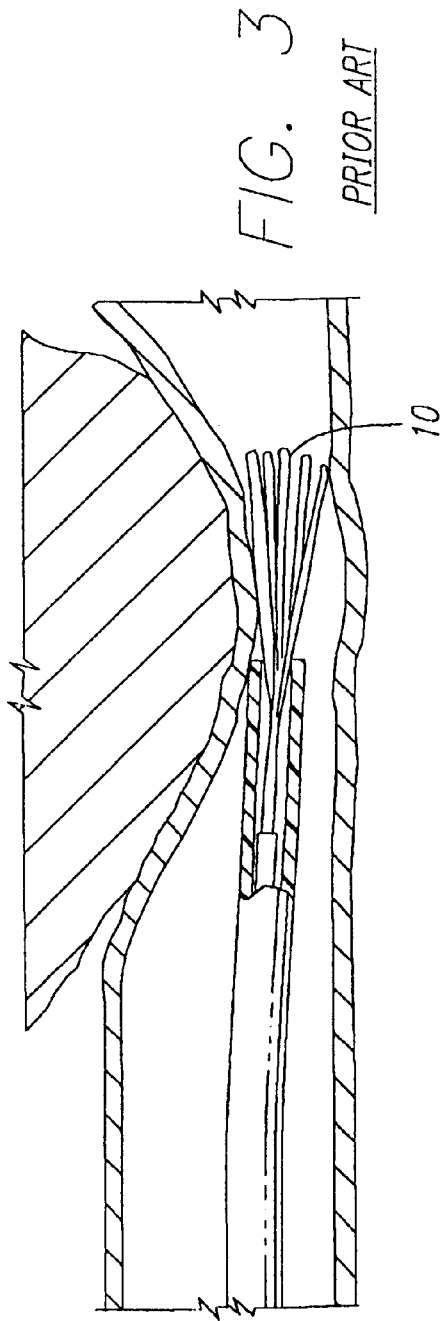
4,300,244	11/1981	Bokros .
4,512,338	4/1985	Balko et al. .
4,580,568	4/1986	Gianturco .
4,655,771	4/1987	Wallsten .
4,740,207	4/1988	Kreamer .
4,762,128	8/1988	Rosenbluth .
4,795,458	1/1989	Regan .
4,830,003	5/1989	Wolff et al. .
4,878,906	11/1989	Lindemann et al. .
4,886,062	12/1989	Wiktor .
4,893,623	1/1990	Rosenbluth .
4,907,336	3/1990	Gianturco .
4,913,141	4/1990	Hillstead .
4,950,227	8/1990	Savin et al. .
4,969,458	11/1990	Wiktor .
4,969,890	11/1990	Sugita et al. .
4,990,155	2/1991	Wilkoff .
4,998,539	3/1991	Delsanti .
5,002,560	3/1991	Machold et al. .



Medtronic Exhibit 1008

U.S. PATENT DOCUMENTS					
			5,378,239	1/1995	Termin et al. .
			5,395,390	3/1995	Simon et al. .
			5,403,341	4/1995	Solar .
5,192,297	3/1993	Hull .	5,405,377	4/1995	Cragg .
5,197,978	3/1993	Hess .	5,411,507	5/1995	Heckeke .
5,222,969	6/1993	Gillis .	5,415,664	5/1995	Pinchuk .
5,222,971	6/1993	Willard et al. .	5,443,496	8/1995	Schwartz et al. .
5,226,913	7/1993	Pinchuk .	5,453,090	9/1995	Martinez et al. .
5,242,451	9/1993	Harada et al. .	5,456,694	10/1995	Marin et al. .
5,256,146	10/1993	Ensminger et al. .	5,478,349	12/1995	Nicholas .
5,258,020	11/1993	Froix .	5,484,444	1/1996	Braunschweiler et al. .
5,263,964	11/1993	Purdy .	5,496,277	3/1996	Termin et al. .
5,282,823	2/1994	Schwartz et al. .	5,522,883	6/1996	Slater et al. .
5,282,824	2/1994	Gianturco .	5,534,007	7/1996	St. Germain et al. .
5,304,200	4/1994	Spaulding .	5,554,181	9/1996	Das .
5,306,294	4/1994	Winston et al. .	5,690,643	11/1997	Wijay 606/108
5,354,308	10/1994	Simon et al. .	5,935,135	8/1999	Bramfitt et al. 606/108
5,354,309	10/1994	Schnepp-Pesch et al. .			
5,372,600	12/1994	Beyar et al. .			





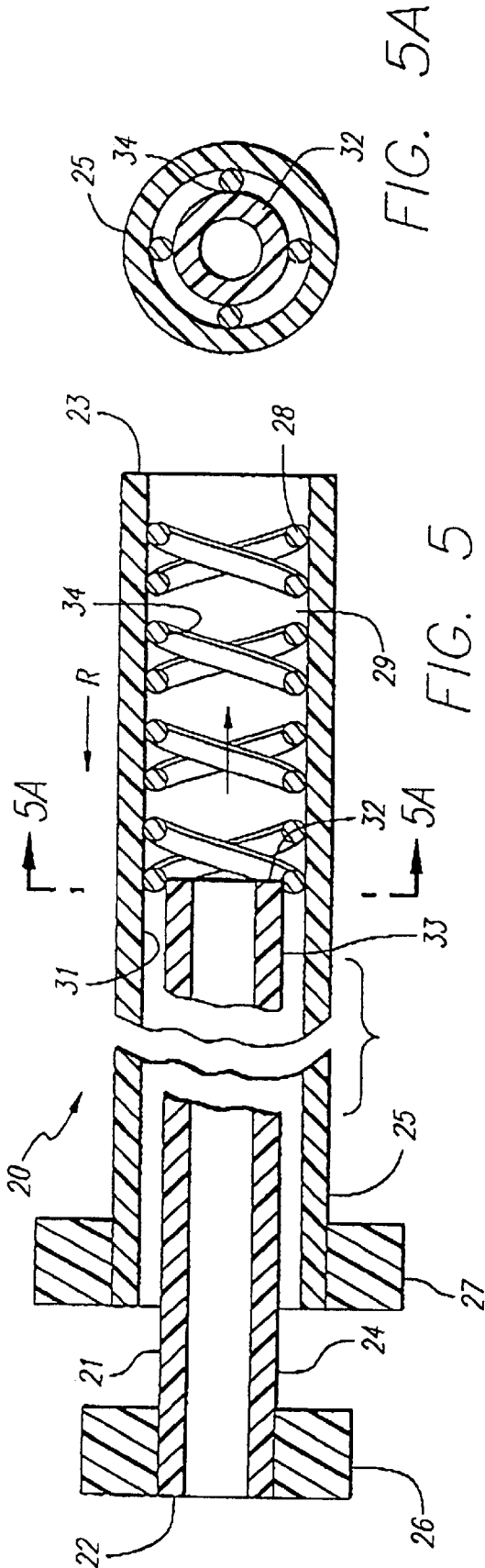


FIG. 5A

FIG. 5

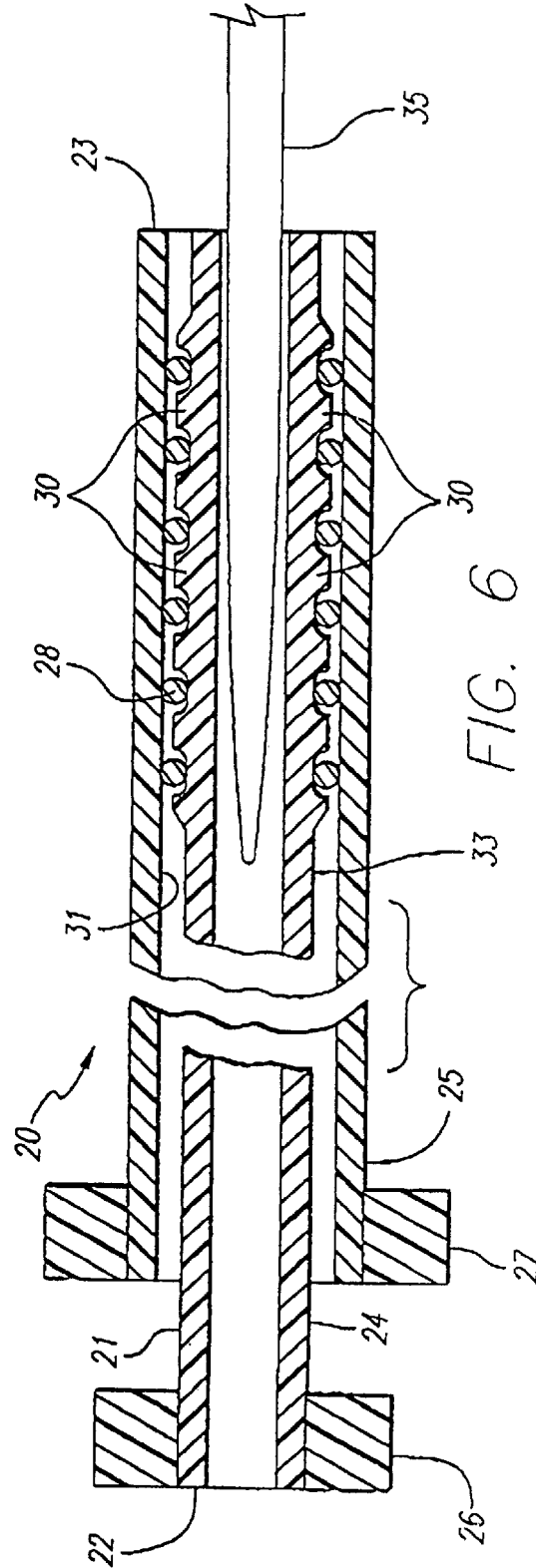


FIG. 6

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.