



US005248296A

# United States Patent [19]

[11] Patent Number: **5,248,296**

Alliger

[45] Date of Patent: **Sep. 28, 1993**

[54] **ULTRASONIC DEVICE HAVING WIRE SHEATH**

[75] Inventor: **Howard M. Alliger, Melville, N.Y.**

[73] Assignee: **Sonic Needle Corporation, Farmingdale, N.Y.**

[21] Appl. No.: **632,679**

[22] Filed: **Dec. 24, 1990**

[51] Int. Cl.<sup>5</sup> ..... **A61B 17/20**

[52] U.S. Cl. .... **609/22; 128/24 AA; 606/169**

[58] Field of Search ..... **128/24 AA; 604/22; 606/128, 159, 169**

[56] **References Cited**

**U.S. PATENT DOCUMENTS**

3,352,303	11/1967	Delaney	604/22
3,861,391	1/1975	Antonevich et al.	128/24 AA
4,223,676	9/1980	Wuchinich et al.	604/22
4,431,006	2/1984	Trimmer et al.	128/24 AA

4,474,180	10/1984	Angulo	128/24 AA
4,735,604	4/1988	Watmough et al.	604/22
4,920,954	5/1990	Alliger et al.	128/24 AA
5,069,664	12/1991	Guess et al.	604/22
5,116,343	5/1992	Ams et al.	604/22

*Primary Examiner*—C. Fred Rosenbaum  
*Assistant Examiner*—Michael Rafa  
*Attorney, Agent, or Firm*—Howard Paul Terry

[57] **ABSTRACT**

An ultrasonic device having a wire sheath for use in removing plaque from a human artery. This ultrasonic device has a wire for removing the plaque, a sheath around the wire for minimizing transverse displacement during cavitation; a handpiece having a portion joined to the wire at one end, and a transducer in the handpiece for vibrating the wire axially. It may also have a pips fitting having an opening for a syringe for fluid under pressure for a passageway between the wire and sheath.

**9 Claims, 2 Drawing Sheets**

