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- (54) **THREADED SUTURE ANCHOR AND METHOD OF USE**
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5,505,735 A *	4/1996	Li .....	606/72
5,645,547 A *	7/1997	Coleman .....	606/73
5,720,766 A	2/1998	Zang et al.	
5,733,307 A	3/1998	Dinsdale	
5,814,070 A	9/1998	Borzzone et al.	
5,824,011 A	10/1998	Stone et al.	
5,904,704 A *	5/1999	Goble et al. ....	606/232
5,964,783 A	10/1999	Grafton et al.	
6,027,523 A *	2/2000	Schmieding .....	606/232
6,045,573 A *	4/2000	Wenstrom et al. ....	606/232
6,096,060 A	8/2000	Fitts et al.	
6,117,162 A	9/2000	Schmieding et al.	
6,214,031 B1	4/2001	Schmieding et al.	
6,290,702 B1	9/2001	Fucci et al.	
6,319,270 B1	11/2001	Grafton et al.	

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- (51) **Int. Cl.**<sup>7</sup> ..... **A61B 17/04**
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- (58) **Field of Search** ..... 606/232

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

4,632,100 A	12/1986	Somers et al.	
5,152,790 A *	10/1992	Rosenberg et al. ....	623/13.14
5,370,662 A	12/1994	Stone et al.	
5,411,523 A *	5/1995	Goble .....	606/232
5,443,482 A *	8/1995	Stone et al. ....	606/232
5,470,334 A *	11/1995	Ross et al. ....	606/72

\* cited by examiner

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(57) **ABSTRACT**

A suture anchor includes an elongated shaft having an exterior sidewall extending between a proximal end and an opposing distal end. A helical first thread is wound about and outwardly projects from the exterior sidewall of the shaft so as to extend between the proximal end and the distal end of the shaft. A first suture port transversely extends through at least a portion of the first thread at the proximal end of the shaft. The suture port is configured to receive a suture line.

**53 Claims, 19 Drawing Sheets**

