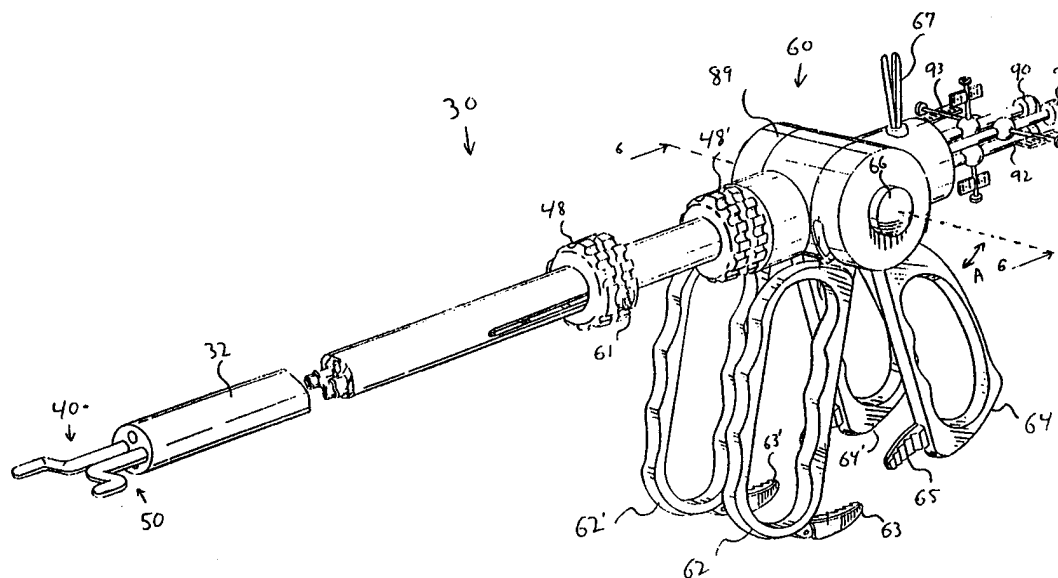




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(21) International Application Number: PCT/US98/08406 (22) International Filing Date: 30 April 1998 (30.04.98) (30) Priority Data: 08/847,189 1 May 1997 (01.05.97) US (71)(72) Applicants and Inventors: YOON, InBae [US/US]; 2101 Highland Ridge Drive, Phoenix, MD 21131 (US). YOON, Samuel, C. [-/US]; 709 Leister Drive, Timonium, MD 21093 (US). (74) Agent: EPSTEIN, Robert, H.; Epstein, Edell & Retzer, Suite 400, 1901 Research Boulevard, Rockville, MD 20850-3164 (US).		(81) Designated States: AU, CA, JP, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i> (88) Date of publication of the international search report: 4 February 1999 (04.02.99)

(54) Title: SURGICAL INSTRUMENT WITH MULTIPLE ROTATABLY MOUNTED OFFSET END EFFECTORS AND METHOD OF USING THE SAME

**(57) Abstract**

An instrument (30) for operating on anatomical tissue includes a barrel (32) having two or more drivers (40, 50) therein which can be manipulated from a proximal end of the barrel. End effectors (50a, 50b) of each driver are offset from a rotatable shaft (140) by a transverse arm (51a, 51b). In an insertion position, the end effectors are confined, within the diametrical dimension of the barrel at the distal end thereof. After insertion, the end effectors can be manipulated to extend beyond the diametrical dimension of the barrel to provide a large working span for manipulating tissue or performing other procedures on tissue.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US98/08406

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :A61B 17/00, 28

US CL :606/001, 205

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 606/001, 106, 107, 151-157, 205-211

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X,P ----- Y,P	US 5,722,990 A (SUGARBAKER et al) 03 March 1998, entire document.	1-3, 12-15, 19-23 ----- 4, 6, 10, 11
X	US 5,395,367 A (WILK) 07 March 1995, entire document.	1-3, 7-9, 12- 23



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