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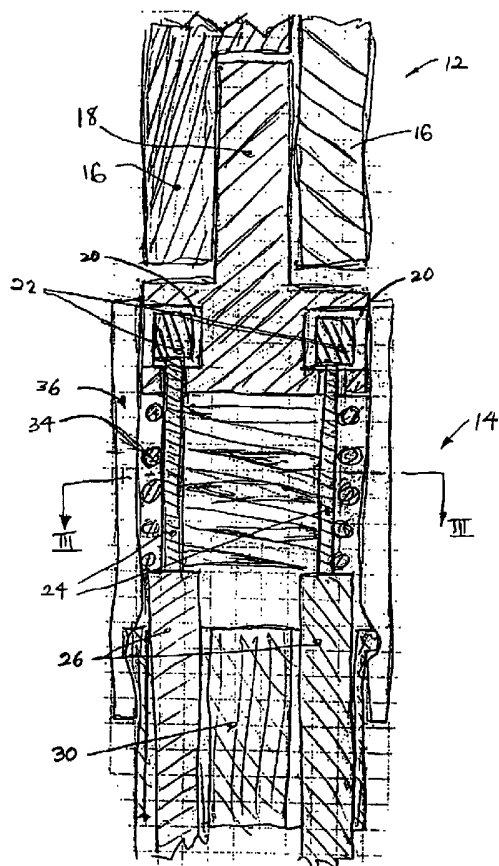
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[Continued on next page]

(54) Title: FLEXIBLE WRIST FOR SURGICAL TOOL



(57) Abstract: A minimally invasive surgical instrument comprises an elongate shaft (14) having a working end, a proximal end, a shaft axis between the working end and the proximal end, and an end effector (12). A wrist member (10) has a flexible tube (26) including an axis extending through an interior surrounded by a wall. The wall of the flexible tube includes a plurality of lumens oriented parallel to the axis of the flexible tube. The wrist member (10) has a proximal portion connected to the working end of the elongate shaft and a distal portion connected to the end effector (12). A plurality of actuation cables (24) have distal portions connected to the end effector and extend from the distal portion through the lumens of the wall of the wrist member toward the elongate shaft to proximal portions which are actuatable to bend the wrist member in pitch rotation and yaw rotation.

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**A. CLASSIFICATION OF SUBJECT MATTER**

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 US CL : 606/130

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. : 606/130,205; 600/139,141-142

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	US 5,916,146 A (Allotta et al.) 29 June 1999, See entire document.	1-8, 12 and 15-26
X	US 6,451,027 B (Cooper et al.) 17 September 2002, See entire document.	27-33
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Y		34-37
A	US 3,190,286 A (Stokes) 22 June 1965, See entire document.	13-14 and 30

Further documents are listed in the continuation of Box C.

See patent family annex.

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