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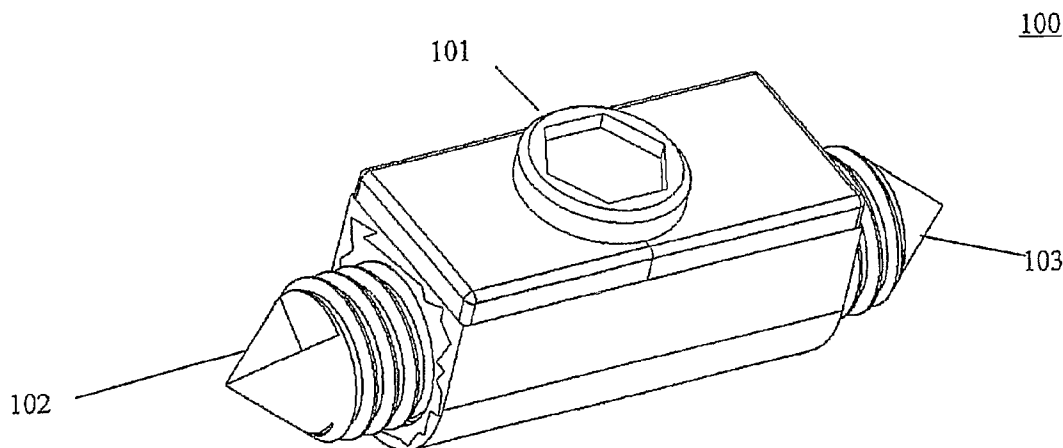
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(54) Title: BI-DIRECTIONAL SCREW & STAPLING DEVICE



(57) Abstract: An apparatus and method for joining members together using a self-drilling screw apparatus or stapling apparatus are disclosed. The screw apparatus includes a shell and first and second first screw members having tapered ends and threaded bodies that are disposed within the shell. A drive mechanism rotatably drives the first and second screw members from the shell in opposite directions and causes the screw members to embed themselves in the members to be joined. The screw apparatus can be used to join members such as bones, portions of the spinal column, vertebral bodies, wood, building materials, metals, masonry, or plastics. The stapling apparatus includes first and second lever arms rotatably joined together at a fulcrum, and the lever arms rotate in opposite directions. First and second cartridges are disposed at the ends of the lever arms. Each cartridge is capable of holding a staple including a bracket, a nail member and an alignment slot. When the ends of the lever arms are rotated towards each other the staples from the cartridges are interlocked. The staples can be also be used to join members such as bones, portions of the spinal column, or vertebral bodies.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US06/12804

## A. CLASSIFICATION OF SUBJECT MATTER

IPC: A61B 17/56( 2006.01)

USPC: 606/72

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. : 606/72,75,78,61,73

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)  
EAST

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,636,217 (Ogilvie et al) 13 January 1987 (13.01.1987) see entire document	1-28
Y	US 5,660,188 A (Groiso) 26 August 1997 (26.08.1997) see entire document	29-38
Y	US 4,960,420 (Goble et al) 02 October 1990 (02.10.1990) see entire document	29-38
A	US 5,960,522 A (Boe) 05 October 1999 (05.10.1999) see entire document	1-38
A	US 4,554,914 (Kapp et al.) 26 November 1985 (26.11.1985) see entire document	1-38

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

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