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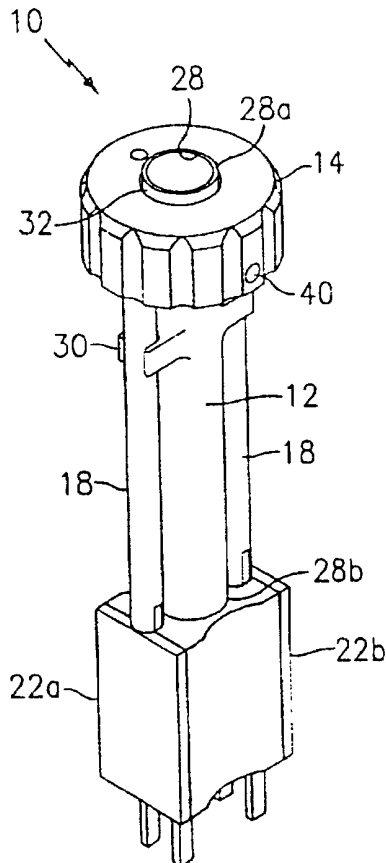
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[Continued on next page]

(54) Title: INTERVERTEBRAL DISTRACTOR AND IMPLANT INSERTION INSTRUMENT



(57) Abstract: A distractor/guide sleeve assembly (10) is provided which includes a body (12) having a cylindrical throughbore and a distractor assembly mounted thereon. The distractor assembly includes a rotatable dial (14), a pair of distractor rods (18), and two pairs of jaws (20a, 20b). A plate (46) is secured to the distal end of each distractor rod (18). Each plate (46) includes a plurality of cam members (56) which are slidably positioned in cam slots (64) formed in the jaws (60) of each of the pairs of jaws (20a, 20b). The dial (14) is operably connected to the jaws (60) via the distractor rods (18) such that rotation of the dial (14) effects movement of the pairs of jaws (20a, 20b) between approximated and distracted positions. An insertion tool is also provided which includes a handle and distal engaging structure for releasably engaging an implant. The engaging structure includes a pair of prongs or protrusions having a slip resistant outer surface. The prongs are configured to be releasably received within correspondingly shaped bores formed in an implant.



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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/14711

A. CLASSIFICATION OF SUBJECT MATTER  
 IPC 7 A61B17/02 A61F2/44

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)

IPC 7 A61B A61F

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 practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 486 505 A (MORRISON) 30 December 1969 (1969-12-30) the whole document	1,3,4
X	US 5 571 109 A (BERTAGNOLI) 5 November 1996 (1996-11-05) abstract; figures 1A,11,16 column 13, line 12-29	1,2
X	US 5 431 658 A (MOSKOVICH) 11 July 1995 (1995-07-11) the whole document	1,3,4
X	EP 0 077 159 A (ATKINS ET AL.) 20 April 1983 (1983-04-20) abstract; figures	1,3,4
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
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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

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- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

10 October 2001

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INTERNATIONAL SEARCH REPORT

International Application No  
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 755 732 A (GREEN ET AL.) 26 May 1998 (1998-05-26) column 10, line 33 -column 11, line 17; figures 19-23 ---	1,5,6
A	US 5 213 112 A (NIWA ET AL.) 25 May 1993 (1993-05-25) figures -----	1-4

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 01/14711

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-6

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-6

A distractor and guide sleeve assembly

2. Claims: 7-10

Implant insertion tool

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/14711

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
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US 5213112	A	25-05-1993	NONE	
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