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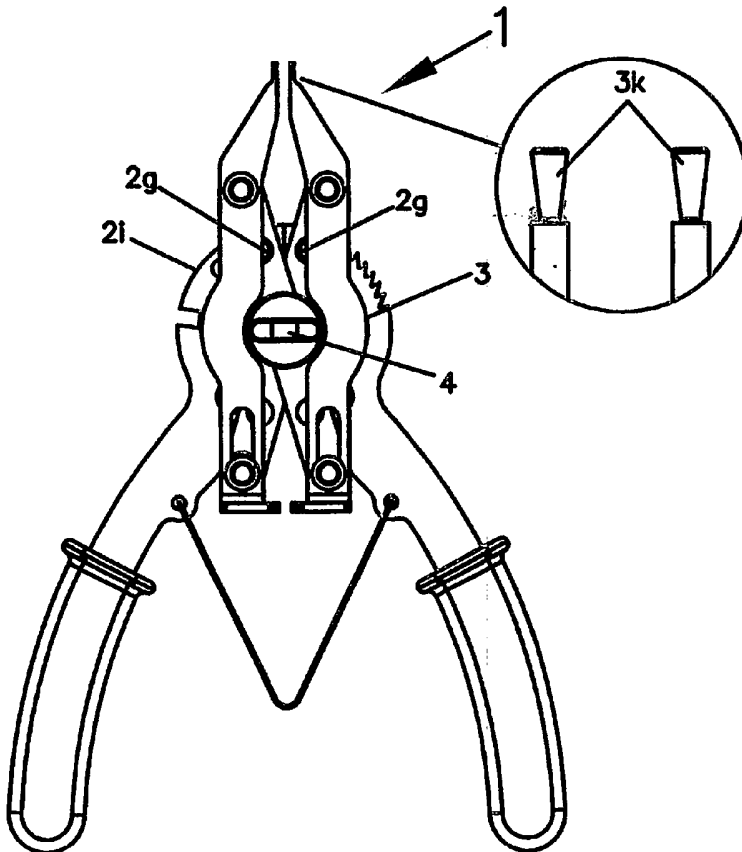
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[Continued on next page]

(54) Title: SNAP RING PLIERS



(57) Abstract: The jaw portion (3) comprises cross levers (3a) centrally connected by a rotatable central axis (3f) with a throughbore (3g) and outwardly connected by lever pivots (3e) to parallel jaws (3h) (within clots at one end) with tapered operating tips (3k) at either end.

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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  
.../IB2005/002361

**A. CLASSIFICATION OF SUBJECT MATTER**  
INV. B25B27/20

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)  
B25B B23P

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, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SU 624 786 A1 (LE METALLICHESKIJ ZAVOD IM. KHKHP SEZDA KPSS) 25 September 1978 (1978-09-25)	1,2,14
Y	figures 1,2	3,6-12
Y	US 6 257 105 B1 (LIN SHUH-SEN) 10 July 2001 (2001-07-10) abstract	1-7,11, 12,14
Y	US 2002/053262 A1 (CHANG HSUEH CHIN) 9 May 2002 (2002-05-09) abstract	1-7,11, 12,14
Y	EP 0 794 039 A (HAZET-WERK HERMANN ZERVER GMBH & CO. KG) 10 September 1997 (1997-09-10) figure 3	1-5,14
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Further documents are listed in the continuation of Box C.       See patent family annex.

\* Special categories of cited documents :

*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
*E* earlier document but published on or after the international filing date	*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
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*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.
*O* document referring to an oral disclosure, use, exhibition or other means	*Z* document member of the same patent family
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search  12 April 2006	Date of mailing of the international search report  12/05/2006
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer  Carmichael, Guy
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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.
Y	GB 728 681 A (V.L. CHURCHILL & COMPANY LIMITED) 27 April 1955 (1955-04-27) figure -----	3
Y	US 3 662 449 A (SEIICHI HASHIMOTO) 16 May 1972 (1972-05-16) abstract; figure 3 -----	6,7
A	US 4 476 750 A (MURPHY ET AL) 16 October 1984 (1984-10-16) figure 13 -----	1,11-13
Y	US 4 790 056 A (ANDERSON ET AL) 13 December 1988 (1988-12-13) figure 1 -----	7-10
A	FR 2 713 126 A (BOST GARNACHE INDUSTRIES) 9 June 1995 (1995-06-09) figure 3 -----	13
Y	FR 2 713 126 A (BOST GARNACHE INDUSTRIES) 9 June 1995 (1995-06-09) figure 3 -----	8-10
A	GB 1 334 877 A (WYNN TIMMINS CO LTD) 24 October 1973 (1973-10-24) figures 2,3 -----	1
A	DE 201 02 624 U1 (GEDORE-WERKZEUGFABRIK OTTO DOWIDAT) 12 April 2001 (2001-04-12) page 4, line 2 - line 8 -----	1
A	DE 92 04 047 U1 (HUGO BENZING KG, 7015 KORNTAL-MUENCHINGEN, DE) 17 June 1992 (1992-06-17) figure 2 -----	1,6
A	SE 427 734 B (PER OLOF * LISSMYR) 2 May 1983 (1983-05-02) figures 1-3 -----	3
A	US 2 765 689 A (WELSENBURGER AUGUST) 9 October 1956 (1956-10-09) figures 1-3 -----	4-6
		6

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB2005/002361

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 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 III Observations where unity of invention is lacking (Continuation of item 3 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.:

### 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: 1-5,14

Pliers for operating snap rings having tapered operating tips  
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2. claims: 6-14

Pliers for operating snap rings having jaw movement means  
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/IB2005/002361
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Patent document cited in search report	Publication date	Publication date	Patent family member(s)	Publication date
SU 624786	A1	25-09-1978	NONE	
US 6257105	B1	10-07-2001	DE 20002022 U1	11-05-2000
US 2002053262	A1	09-05-2002	TW 454653 Y	11-09-2001
EP 0794039	A	10-09-1997	AT 186864 T DE 59603713 D1 ES 2139968 T3	15-12-1999 30-12-1999 16-02-2000
GB 728681	A	27-04-1955	NONE	
US 3662449	A	16-05-1972	DE 2022042 A1 GB 1279921 A	16-06-1971 28-06-1972
US 4476750	A	16-10-1984	DE 3419976 A1 DE 8416236 U1 FR 2547233 A1 GB 2141067 A	13-12-1984 22-08-1985 14-12-1984 12-12-1984
US 4790056	A	13-12-1988	NONE	
FR 2713126	A	09-06-1995	NONE	
GB 1334877	A	24-10-1973	NONE	
DE 20102624	U1	12-04-2001	NONE	
DE 9204047	U1	17-06-1992	NONE	
SE 427734	B	02-05-1983	SE 7905782 A	03-01-1981
US 2765689	A	09-10-1956	NONE	