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KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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Declarations under Rule 4.17:

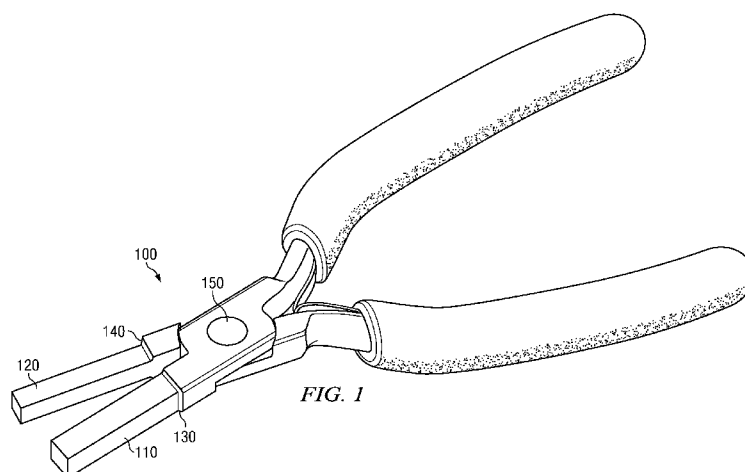
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:

25 April 2013

(54) **Title:** JEWELRY MANDREL PLIERS AND METHOD OF USING SAME

(57) **Abstract:** The present invention provides a mandrel tool and method for more efficiently and consistently forming various shapes of material. In one embodiment of the invention, a pair of pliers having mandrel jaws that are shaped with a uniform cross sectional area throughout a length of the mandrel jaw is used to replace the traditional tapered mandrel. The mandrel pliers of the present invention may be used to grip wire or sheet metal and form it into unique shapes such as squares, triangles, ovals, or circles. Because the mandrel jaws have a uniform cross sectional area, the wire, for example, can be wrapped multiple times around the mandrel jaw when it is desired to produce multiples of the same shape. For added versatility, the pliers can have opposing mandrel jaws, each having a different size cross sectional area than the other so that a shape of a larger size can be created on one side of the pair of pliers and a shape of a smaller size can be reproduced on the other side of the pair of pliers.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/041719**A. CLASSIFICATION OF SUBJECT MATTER*****B44B 1/02(2006.01)i, B44B 1/00(2006.01)i***

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: B44B 1/02; B25B 7/02; B23P 13/00; B25B 7/02; B21F 9/00

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & keywords: jewelry, mandrel, plier, pivot, wire, squeeze, and jaw

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 7814817 B1 (SHERIFF, TIMOTHY W.) 19 October 2010 See abstract, column 2 line 29 - column 4 line 58, and figures 1,11	1-25
A	US 2009-0188092 A1 (TERESIAK, MACIEJ A.) 30 July 2009 See abstract, paragraphs [0015]-[0020], [0023]-[0025], and figures 3-13	1-25
A	JP 2000-334667 A (KAZAKKUSU KK) 5 December 2000 See abstract, paragraph [0018], and figures 1-7	1-25
A	US 4539873 A (FREED, MELVYN N.) 10 September 1985 See abstract and figures 1-6	1-25
A	US 2010-0108964 A1 (CLARK, RICK et al.) 6 May 2010 See abstract, claims 1,14, and figures 1-6	1-25

☐ 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

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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

"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

"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

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Date of mailing of the international search report

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 7814817 B1	19.10.2010	None	
US 2009-0188092 A1	30.07.2009	EP 2084983 A2	05.08.2009
JP 2000-334667 A	05.12.2000	None	
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