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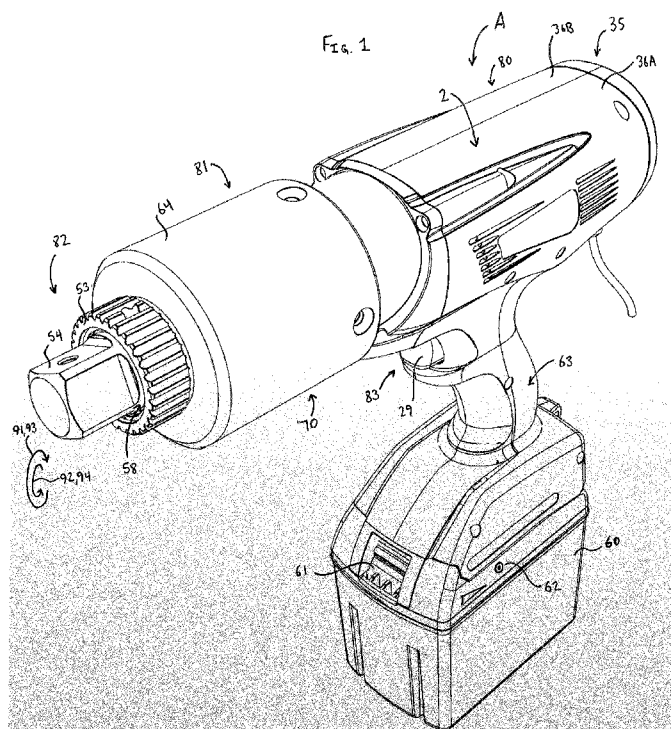
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(54) Title: APPARATUS FOR TIGHTENING THREADED FASTENERS



(57) Abstract: A portable torque power tool is disclosed herein and includes: a motor to generate a turning force; a drive to transfer the turning force; a turning force multiplication mechanism assembly to multiply the turning force; a shifter assembly to shift the tool between a lower speed / higher torque (LSHT) mode and a higher speed / lower torque (HSLT) mode; a torque transducer to measure torque output from a portion of the turning force multiplication mechanism assembly; wherein torque output is controlled by the torque transducer in LSHT mode; and wherein torque output is controlled by motor current in HSLT mode.



UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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ADD.

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

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)

EP0-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 5 062 491 A (TAKESHIMA AKIRA [JP] ET AL) 5 November 1991 (1991-11-05) column 5, line 5 - column 9, line 55; figures 1-3	1-17
A	----- WO 2013/027094 A1 (PANASONIC CORP [JP]; ATSUMI MASATOSHI [JP] ET AL.) 28 February 2013 (2013-02-28) the whole document	1-17
A	----- US 8 790 210 B2 (CHEN LIANG [CN]; ZHANG ZHI [CN]; LI JIANG [CN]; CHERVON HK LTD [HK]) 29 July 2014 (2014-07-29) column 3, line 53 - column 6, line 50; figures 2-8	1-17
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Further documents are listed in the continuation of Box C.



See patent family annex.

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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.
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A	US 2013/000938 A1 (MATSUNAGA YUTAKA [JP] ET AL) 3 January 2013 (2013-01-03) paragraphs [0069] - [0070]; figures 1-14 -----	1-17

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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