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[Continued on next page]

(54) Title: MULTI-CYCLE PIPE CUTTER AND RELATED METHODS

(57) Abstract: A downhole pipe cutting tool includes a tool body having a piston assembly disposed in a central bore thereof, wherein the piston assembly is configured to translate longitudinally along the central axis of the tool body, and a plurality of cutter knife sets. Each of the plurality of cutter knife sets includes at least two individual cutter knives circumferentially spaced about a central axis of the tool body and is configured to selectively engage with the piston assembly to extend outward to perform pipe cutting operation.

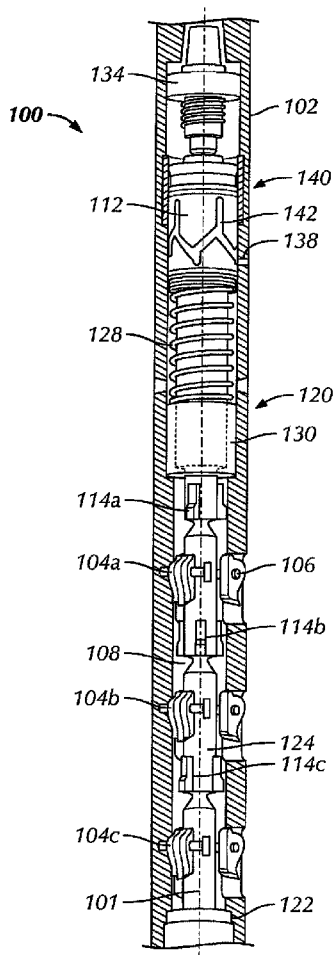


FIG. 1

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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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A. CLASSIFICATION OF SUBJECT MATTER*E21B 10/32(2006.01)i, E21B 10/14(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)

E21B 10/32; E21B 17/10; E21B 10/66; E21B 29/00

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: cutting, section, mill, index and similar terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|---|
| X A | US 05074355 A (LENNON, W. L.) 24 December 1991 See column 2, line 52 - column 4, line 57 and figures 1-5 | 1-4, 7-12, 14-20 , 22-24 5, 6, 13, 21 |
| A | US 05732770 A (BEEMAN, ROBERT) 31 March 1998 See column 4, line 64 - column 5, line 49 and figure 1 | 1-24 |
| A | US 04491187 A (RUSSELL, LARRY R.) 01 January 1985 See column 4, line 35 - column 4, line 53 and figure 3 | 1-24 |
| A | US 05018580 A (SKIPPER, UVON) 28 May 1991 See column 3, line 29 - column 3, line 37 and figure 1 | 1-24 |

 Further documents are listed in the continuation of Box C. See patent family annex.

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Information on patent family members

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| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|--|------------------|--|--|
| US 05074355 A | 24.12.1991 | None | |
| US 05732770 A | 31.03.1998 | AU 1997-37776 B2 EP 0925422 A1 EP 0925422 B1 WO 98-05846 A1 | 18.05.2000 27.09.2000 20.11.2002 12.02.1998 |
| US 04491187 A | 01.01.1985 | None | |
| US 05018580 A | 28.05.1991 | US 04893675 A | 16.01.1990 |