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[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR RETRIEVING AND INSTALLING A DRILL LOCK ASSEMBLY FOR CASING DRILLING

Fig. 1A

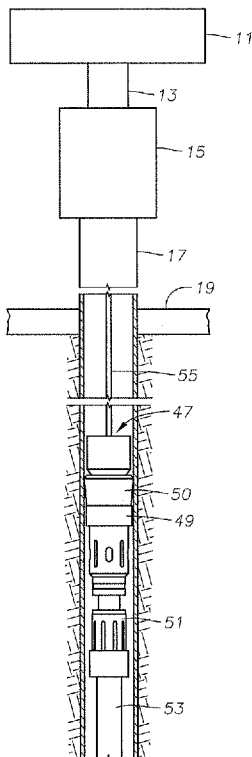
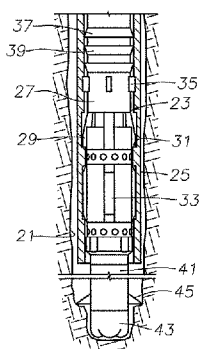


Fig. 1B



(57) Abstract: A method of installing a drilling tool at a lower end of a string of casing suspended in a borehole employs a setting tool run by wire-line. The setting tool is latched to a drilling tool connected a drill lock assembly. After landing in a profile sub at the lower end of the casing, fluid pressure is applied to the interior of the string of casing to actuate the setting tool. The setting tool moves to latch the drill lock assembly to the sub so that torque may be transmitted between the profile sub and the drill lock assembly. The setting tool movement also releases the setting tool from the drill lock assembly for retrieval.



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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/065032**A. CLASSIFICATION OF SUBJECT MATTER****E21B 17/04(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 17/04; E21B 23/02; E21B 23/06; E21B 23/08; E21B 34/12

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

(Chinese Patents and application for patent)

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

eKOMPASS(KIPO internal) & Keywords: install, latch, mandrel, pull, retrieve, drill lock assembly, wireline setting tool

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-----------------------|
| A | US 4745974 A1 (HIGGINS; BRIAN D.) 24 May 1988 See the abstract, columns 4-6, figures 1, 2. | 1-38 |
| A | US 5826652 A1 (TAPP; WILLIAM T.) 27 October 1998 See the abstract, columns 2, 3, 6-8 and the claims. | 1-38 |
| A | US 4295528 A1 (CARMODY; MICHAEL) 20 October 1981 See the abstract and claims. | 1-38 |
| A | US 4898245 A1 (BRADDICK; BRITT O.) 06 February 1990 See the abstract and claims. | 1-38 |

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

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"&" document member of the same patent family

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Information on patent family members

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PCT/US2009/065032

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|--|------------------|--|--|
| US 4745974 A1 | 24.05.1988 | None | |
| US 5826652 A1 | 27.10.1998 | AU 1998-60716 B2 CA 2234556 C GB 2325680 A | 18.04.2002 31.01.2006 02.12.1998 |
| US 4295528 A1 | 20.10.1981 | None | |
| US 4898245 A1 | 06.02.1990 | None | |