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[Continued on next page]

(54) Title: WIRED MULTI-OPENING CIRCULATING SUB

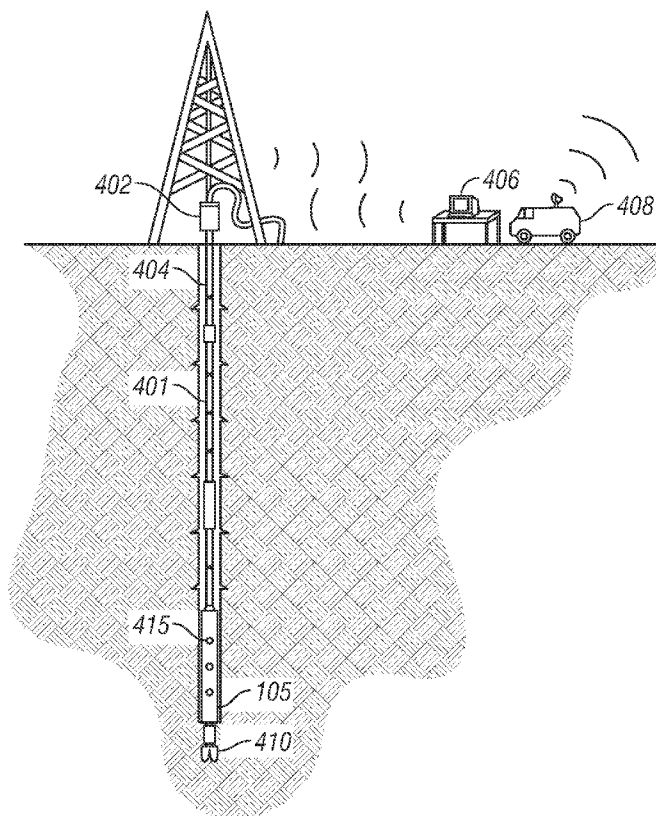


FIG. 24

(57) Abstract: System and method for circulating fluid within a well bore. A circulation sub configured with communication elements on its ends to link the sub to a downhole communication network. A slideable piston in the sub isolates or exposes an outer port on the sub to an inner fluid flow along the sub depending on a signal transmitted along the communication network. Methods for activating the circulation sub via signals transmitted along the downhole communication network.

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NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

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PCT/US2008/084177**A. CLASSIFICATION OF SUBJECT MATTER****E21B 33/12(2006.01)i, E21B 21/08(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)

IPC8: E21B 33/12, 33/14, 34/06, 47/09

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 since 1975

Japanese Utility models and applications for Utility Models since 1975

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

eKIPASS(KIPO internal) & keywords: conductor, communication element, outer port, piston

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 7 252 152 B2(LOGIUDICE et al.) 7 AUGUST 2007 See the ABSTRACT, figs. 1-6 and column 4 line 40 - column 8 line 47	1-25
Y	US 2006/0225926 A1(MADHAVAN et al.) 12 OCTOBER 2006 See the ABSTRACT, figs. 1-3 and paragraph [0071]	1-25
A	US 5 421 420 A(MALONE et al.) 6 JUNE 1995 See the ABSTRACT, figs. 1-2 and column 3 line 61 - column 4 line 30	1-25
A	US 5 465 787 A(ROTH) 14 NOVEMBER 1995 See the ABSTRACT, figs. 1-3 and column 5 line 11 - column 6 line 17	1-25

☐ 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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