

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 December 2007 (27.12.2007)

PCT

(10) International Publication Number
WO 2007/149507 A3

(51) International Patent Classification:
E21B 47/00 (2006.01)

(21) International Application Number:
PCT/US2007/014421

(22) International Filing Date: 19 June 2007 (19.06.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/471,370 19 June 2006 (19.06.2006) US

(71) Applicant (*for all designated States except US*):
FRANK'S INTERNATIONAL, INC. [US/US]; 10260
Westheimer, Suite 700, Houston, TX 77042 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **KAMPMAN, Rolf,**
N. [NL/NL]; Vogelzand 2620, NL-1788 GR Den Helder
(NL). **SCHMIDT, Hans, A.** [DE/DE]; Rohrsers Breite 25,
31789 Hameln (DE).

(74) Agent: **THE MATTHEWS FIRM**; 2000 Bering Drive,
Suite 700, Houston, TX 77057 (US).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:
27 November 2008

(54) Title: RIGLESS WELL INTERVENTION APPARATUS AND METHOD

(57) Abstract: The present invention relates generally to a rigless well intervention apparatus and method for well completion, recompletion, servicing, workover and intervention. Specifically, the present invention relates to a rigless well intervention apparatus and method for performing various well completion, recompletion, servicing, workover and intervention operations that pertains to a range of products, services and techniques whether designed to be run through, or conducted within, the production tubing of an oil or gas well, or not, ranging from the ability to operate within a restricted diameter tubular with live-well intervention when the tubing is in place to the ability to drill the well.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US07/14421

A. CLASSIFICATION OF SUBJECT MATTER

IPC: E21B 47/00(2006.01)

USPC: 166/250.1,66

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)

U.S. : 166/250.1, 66, 380, 381, 77.1, 75.14; 254/274; 275

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)
Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/065874 A1 (NEWMAN, F.M) 08 April 2004(08.04.2004), see entire document.	1-5
X,P	US 7,063,159 B2 (PATTON et al) 20 June 2006(20.06.2006), see entire document.	4 and 5
Y,P		1 and 2
Y	US 5,160,055 A (GRAY, G.G.) 03 November 1992(03.11.1992), see entire document.	1 and 2

☐ 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	"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
"E" earlier application or patent published on or after the international filing date	"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
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"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
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

24 August 2008 (24.08.2008)

Date of mailing of the international search report

23 SEP 2008

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (571) 273-3201

Authorized officer

Marianne Seidel

Telephone No. (571) 272.1600

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US07/14421

Continuation of B. FIELDS SEARCHED Item 3:

EAST: and strain, gauge same maximum, maximum string pulling capacity, (rig structure injector) lifting capacity, same strain gauge (sensor transducer gauge), and rare