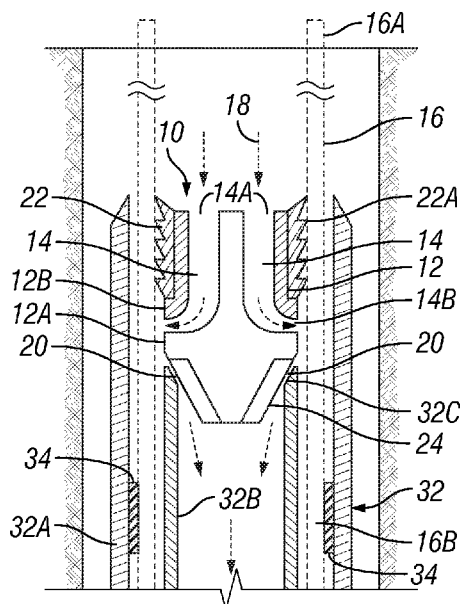


(43) International Publication Date
24 November 2011 (24.11.2011)

- (51) **International Patent Classification:**
E21B 29/00 (2006.01) *E21B 43/114* (2006.01)
E21B 29/04 (2006.01)
- (21) **International Application Number:**
PCT/US2011/034468
- (22) **International Filing Date:**
29 April 2011 (29.04.2011)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
12/784,311 20 May 2010 (20.05.2010) US
- (71) **Applicant (for all designated States except US):** **BAKER HUGHES INCORPORATED** [US/US]; 2929 Allen Parkway, Suite 2100, Houston, Texas 77019-2118 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** **MISSELBROOK, John, G.** [CA/CA]; 94 Lynx Meadows Drive, Calgary, Alberta, T3L 2L9 (CA). **SACH, Manfred** [DE/CA]; 338c Silvegrove Place, Calgary, Alberta, T3B 4T6 (CA). **SKUFCA, Jason, M.** [US/US]; 12223 Normont Drive, Houston, TX 77070 (US).
- (74) **Agents:** **JOHNSON, Rexford, A.** et al.; Zarian Midgley & Johnson PLLC, 960 Broadway, Suite 250, Boise, ID 83706 (US).
- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, 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, PE, PG, PH, PL, PT, RO, RS, RU, 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.
- (84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) **Title:** CUTTING DART AND METHOD OF USING THE CUTTING DART**FIG. 1**

(57) **Abstract:** The present disclosure is directed to a cutting dart. The cutting dart comprises a dart body including a first pathway. The first pathway is configured to redirect cutting fluid flowing through a coiled tubing so that the cutting fluid flows radially to impinge against an inner surface of the coiled tubing. A seal is positioned around an outer circumference of the dart body. The present disclosure is also directed to an anchor dart. The anchor dart comprises a dart body and a swellable elastomer positioned around an outer circumference of the dart body. Methods of employing the cutting dart and anchor dart are also disclosed.

WO 2011/146219 A3



Published:

(88) Date of publication of the international search report:

— *with international search report (Art. 21(3))*

28 February 2013