



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁷ : E21B 10/22, F16J 15/32	A1	(11) International Publication Number: WO 00/52295 (43) International Publication Date: 8 September 2000 (08.09.00)
(21) International Application Number: PCT/US00/04979 (22) International Filing Date: 24 February 2000 (24.02.00) (30) Priority Data: 09/259,851 1 March 1999 (01.03.99) US (71) Applicant (for all designated States except US): HALLIBURTON ENERGY SERVICES, INC. [US/US]; 2601 Beltline Road, Carrollton, TX 75006 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): PANIGRAHI, Amiya, K. [US/US]; 6539 Shady Brook Lane #3244, Dallas, TX 75206 (US). BLACKMAN, Mark, P. [US/US]; 1513 Summerwind, Lewisville, TX 75077 (US). LEFORT, Guy, James [US/US]; 3113 Longbow Drive, Grand Prairie, TX 75052 (US). (74) Agents: GROOVER, Robert et al.; Groover & Associates, p.c., 17000 Preston Road #230, Dallas, TX 75248 (US).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
(54) Title: ROLLER CONE BIT WITH IMPROVED SEAL GLAND DESIGN (57) Abstract In the seal gland in a rotating cone drill bit, the O-ring is initially compressed between the journal and a central portion of the gland which has a cross-section parallel to the journal. These two concentric surfaces provide a minimum amount of contact pressure for a given amount of squeeze than other configurations. Chamfers connect the central portion to the sidewalls of the gland, so that after the seal has worn in use, it will ride up onto the chamfers, where additional squeeze will be applied to the seal. This allows the seal to operate in a standard regime during the first part of its lifetime and to automatically shift to a more compressed mode as the seal wears.		