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(21) International Application Number: PCT/US95/03902 (22) International Filing Date: 31 March 1995 (31.03.95) (30) Priority Data: 08/221,371 31 March 1994 (31.03.94) US (71) Applicant: DRESSER INDUSTRIES, INC. [US/US]; Suite 4100, 2001 Ross Avenue, Dallas, TX 75201-2916 (US). (72) Inventors: BLACKMAN, Mark, Philip; 1513 Summerwind, Lewisville, TX 75067 (US). BIRD, Jay, Stuart; 312 Brown Street, Waxahachie, TX 75165 (US). BEATON, Michael, Steve; 1501 Fuller Drive, Cedar Hill, TX 75104 (US). (74) Agent: FELGER, Thomas, R.; Baker & Botts, L.L.P., 2001 Ross Avenue, Suite 800, Dallas, TX 75201-2916 (US).		(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ, UG). Published <i>With international search report.</i>

(54) Title: **ROTARY DRILL BIT WITH IMPROVED CUTTER**

(57) Abstract

A rotary cone drill bit (10) having a number of angularly-spaced arms (21) integrally formed with a body (19), each arm (21) having a spindle (23) and an outer shirrtail surface (25). Each spindle (23) has a generally cylindrical upper end portion and an inner sealing surface. A number of rotary cone cutters (11) equal to the number of arms (21) are mounted on respective spindles (23). Each cutter includes an internal cylindrical wall, a gap (41) with a generally cylindrical portion defined between the spindle (23) and cavity wall, an outer sealing surface and a seal element (43) spanning the gap (41) and sealing between the inner and outer sealing surfaces. The cutters (11) are preferably composites formed from different types of material.

