



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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| <p>(21) International Application Number: PCT/US97/17541</p> <p>(22) International Filing Date: 6 October 1997 (06.10.97)</p> <p>(30) Priority Data:<br/>08/734,355 21 October 1996 (21.10.96) US</p> <p>(71)(72) Applicant and Inventor: NEWMAN, Frederic, M.<br/>[US/US]; 1618 West Dengar, Midland, TX 79705 (US).</p> <p>(74) Agents: GUNTER, Charles, D., Jr. et al.; 2600 Continental Plaza, 777 Main Street, Fort Worth, TX 76102 (US).</p> | <p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), European patent (AT, BE, CH, DE, DK, ES, FI, 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).</p> <p>Published<br/>With international search report.</p> |                                                                                                                            |

(54) Title: METHOD OF LONGITUDINALLY SPLITTING A PIPE COUPLING WITHIN A WELLBORE

## (57) Abstract

A method of removing a pipe string (36) anchored in cement (62) within a wellbore (56) involves the use of a coupling cutter (10) having a linear charge (42) that is magnetically oriented radially and rotationally within the pipe (36). The coupling cutter (10) also has a coupling sensor (24) that identifies the location of a coupling (88) electronically. One first determines the free length of pipe (36) that is above the cement (62). The coupling sensor (24) then finds the lowest coupling (88') that is just above the cement (62) level so that the linear charge (42) can be axially aligned to that coupling (88'). A magnet (18) on the cutter (10) properly orients the linear charge (42) both radially and rotationally relative to the inner wall (48) of the pipe (36). The charge (42) is detonated to longitudinally split the coupling (88'). The pipe string (36) is then disassembled and pulled from the wellbore (36).

