

## [12] Patent

[11] Patent No.: GC 0000118	Number of the Decision to Grant the Patent: 4/1221
[45] Date of Publishing the Grant of the Patent: 29/06/2005 4/2005	Date of the Decision to Grant the Patent: 30/06/2004
[21] Application No.: GCC/P/1999/463 [22] Filing Date: 25/12/1999 [30] Priority: [31] Priority No. [32] Priority date [33] State 98310784.8 30/12/1998 EP [72] Inventors: 1- Wilhelmus Petrus Henricus De Bor, 2- Marinus Carolus Adrianus Maria Peters [73] Owner: Shell Internatinale Research Maatschappij, B.V., Carel van Bylandtlaan 30, The Hague, 2596 HR, The Netherlands [74] Agent: Suleiman Ibrahim Al-Ammar	[51] Int. Cl. <sup>7</sup> : E21B 36/02 [56] Cited Documents: - WO 9321477 A (SHELL CANADA LTD; SHELL INT RESEARCH (NL)) 28 October 1993 - FR 1252585 A (EBERSPAECHER) 09 May 1961 - EP 0550401 A (MFG & TECH CONVERSION INT INC) 07 July 1993 - US 5044930 A (HONGO ICHIRO et al.) 03 September 1991

### [54] PULSED COMBUSTION DEVICE AND METHOD

[57] Abstract: A pulsed combustion device for use in an underground borehole comprises a substantially tubular combustion chamber and separate fuel and oxidant supply conduits for supplying fuel and oxidant to the combustion chamber. One of said conduits has a fluid discharge port equipped with return flow limitation means located at the upstream end of the chamber and the combustion chamber is shaped as a Helmholtz resonator having a tailpipe section of which the internal diameter is significantly smaller than the other parts of the combustion chamber.

No. of claims: 11

No. of figures: 3

