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(71) Applicant (for all designated States except US): INDIANA UNIVERSITY RESEARCH AND TECHNOLOGY CORPORATION [US/US]; 351 W. Tenth Street, Indianapolis, IN 46202 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **RAZI, Nalim** [US/US]; 6047 Polonius Court, Indianapolis, IN 46254 (US). **PEZHMAN, Akbari** [IR/US]; 700 N. Alabama Street, Apt. #900, Indianapolis, IN 46204 (US).

(74) Agent: **SCHANTZ, Matthew, R.**; Bingham McHale LLP, 10 West Market Street, Suite 2700, Indianapolis, IN 46204 (US).

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[Continued on next page]

(54) Title: PILOT FUEL INJECTION FOR A WAVE ROTOR ENGINE

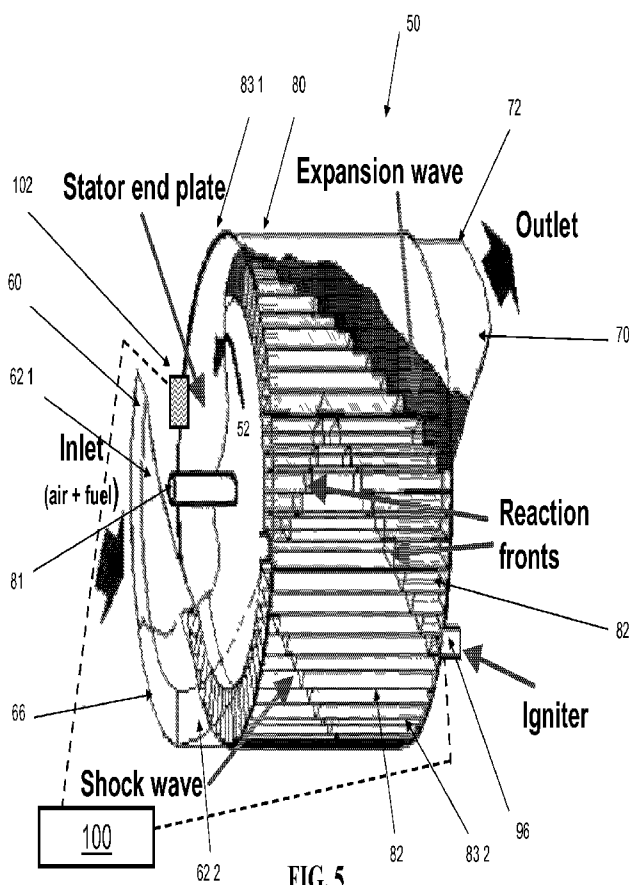


FIG. 5

(57) Abstract: Apparatus and methods for combustion of fuel. Some embodiments of the inventions include a fuel nozzle which injects fuel into a combustion channel of a wave rotor combustor or a pulse detonation combustor. In some embodiments the combustion process includes a backward-propagating detonation wave within a substantially closed channel which compresses discrete quantities of combustible and noncombustible mixture. Yet other embodiments include a precombustion chamber integrated into the wave rotor, the outlet stator or both.

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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	US 5,749,219 A (DuBell) 12 May 1998 (12.05 1998)	12, 21, 46
A	US 7,137,243 B2 (SNYDER et al) 21 November 2006 (21 11 2006)	55
A	US 6,460,342 B1 (NALIM) 08 October 2002 (08 10 2002)	1, 39, 55, 58, 74, 76

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Name and mailing address of the ISA/US

Mail Stop PCT, Attn ISA/US
Commissioner for Patents
P O Box 1450
Alexandria, Virginia 22313-1450

Facsimile No (57 1) 273-320 1

Authorized Officer

Devon Kramer

Telephone No 57 1-672-3700