

Title (en)
Rotary expansion engine

Title (de)
Expansions-Rotationsmotor

Title (fr)
Moteur rotatif à expansion

Publication
EP 2434135 A1 20120328 (FR)

Application
EP 10179377 A 20100924

Priority
EP 10179377 A 20100924

Abstract (en)
The engine (1) has an engine block (10) movable in rotation around a rotation axis and comprising blind end cylinders (12-16) mounted on a casing. The cylinders are closed by movable pistons (20-24) defining variable sized sealed chambers (122-162) in the cylinders, respectively. Each piston is connected to a crankshaft (40) integrated with the rotation axis of the engine block. Each of the chambers contains fluid expanded under the effect of raise of temperature. A heating unit i.e. fixed heating enclosure, raises the temperature of the fluid present in the chambers. The fluid is chosen from a group comprising Freon(RTM: chlorofluorocarbon), helium, air and hydrogen.

Abstract (fr)
Moteur rotatif (1) comprenant un bloc-moteur (10) mobile en rotation autour d'un axe (17) et comprenant plusieurs cylindres borgnes (12-16) montés sur un carter (110). Les cylindres borgnes sont chacun respectivement fermés par un piston mobile (20; 21; 22; 23; 24) définissant dans chaque cylindre (12; 13; 14; 15; 16) une chambre étanche (122; 132; 142; 152; 162) à volume variable. Chaque piston (20; 21; 22; 23; 24) est relié à un vilebrequin (40) solidaire de l'axe de rotation (17) du bloc-moteur (10). La chambre étanche à volume variable (122; 132; 142; 152; 162) de chaque piston (20; 21; 22; 23; 24) contient un fluide apte à se dilater sous l'effet d'une élévation de température, le moteur comprenant en outre des moyens de chauffage pour élever la température du fluide présent dans chaque chambre.

IPC 8 full level
F02G 1/043 (2006.01); **F01B 13/06** (2006.01); **F02G 1/04** (2006.01); **F02G 1/053** (2006.01)

CPC (source: EP US)
F01B 13/068 (2013.01 - EP US); **F02B 75/222** (2013.01 - EP US); **F02G 1/04** (2013.01 - EP US); **F02G 1/043** (2013.01 - EP US); **F02G 1/0535** (2013.01 - EP US); **F02G 2244/04** (2013.01 - EP US); **F02G 2254/18** (2013.01 - EP US); **F02G 2254/45** (2013.01 - EP US); **F02G 2270/15** (2013.01 - EP US)

Citation (search report)

- [Y] CN 101705846 A 20100512 - UNIV SHAOXING
- [Y] WO 2008094696 A1 20080807 - SEPARATION DESIGN GROUP LLC [US], et al
- [Y] US 3256686 A 19660621 - LINDBERG JR JOHN E
- [Y] CN 101705924 A 20100512 - UNIV SHAOXING
- [E] WO 2010149277 A2 20101229 - ETH ZUERICH [CH], et al
- [A] JP 2002257031 A 20020911 - SEIKO EPSON CORP
- [A] US 7451726 B1 20081118 - SPOREA PETER SORIN [US]
- [A] FR 2478739 A2 19810925 - RIZZO JEAN PIERRE [FR]
- [A] US 4094278 A 19780613 - FRANKE WALTER

Cited by
DE102019131363B3

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

Designated extension state (EPC)
BA ME RS

DOCDB simple family (publication)
EP 2434135 A1 20120328; US 2012073298 A1 20120329

DOCDB simple family (application)
EP 10179377 A 20100924; US 201113241586 A 20110923