

Title (en)

PROCESS FOR THE TRANSFORMATION OF THERMAL ENERGY INTO MECHANICAL ENERGY BY MEANS OF A COMBUSTION ENGINE,  
AND THE ENGINE

Publication

**EP 0104541 B1 19880107 (FR)**

Application

**EP 83109057 A 19830914**

Priority

CH 564882 A 19820924

Abstract (en)

[origin: US4513568A] An energy transformation cycle in which the number of strokes is higher than four, at least four of which are: a. the compression of air contained in a variable volume chamber, into a preheating chamber; b. the expansion of the variable volume chamber through the expansion of hot air contained in the preheating chamber; c. the compression of the expanded hot air contained in the variable volume chamber into a combustion chamber where fuel is introduced to cause the combustion of the mixture; and d. the expansion of the variable volume chamber through the expansion in the chamber of high temperature and high pressure combustion gases from the combustion chamber. The engine comprises a body (23) inside which is a movable member (25) defining a variable volume chamber (29). The body (23) comprises an admission duct (35) and an exhaust duct (34). This engine comprises further an air preheating chamber (41) the inlet and outlet of which communicate, through a distribution member (36), alternately with the variable volume chamber (29). This engine comprises further a combustion chamber (44), provided with a fuel distributor, the inlet and outlet of which communicate, through the distribution member (36), alternately with the variable volume chamber (29).

IPC 1-7

**F02G 3/02**; **F02B 19/02**; **F01L 7/02**; **F02B 75/02**

IPC 8 full level

**F01L 7/02** (2006.01); **F02B 41/00** (2006.01); **F02B 53/00** (2006.01); **F02B 75/02** (2006.01); **F02G 3/00** (2006.01); **F02G 3/02** (2006.01); **F02B 1/04** (2006.01)

CPC (source: EP US)

**F01L 7/025** (2013.01 - EP US); **F01L 7/029** (2013.01 - EP US); **F02B 75/02** (2013.01 - EP US); **F02B 75/021** (2013.01 - EP US); **F02G 3/02** (2013.01 - EP US); **F02B 1/04** (2013.01 - EP US); **F02B 2075/027** (2013.01 - EP US)

Cited by

US4809511A; CN112119202A; WO03102377A1; WO2019175594A1

Designated contracting state (EPC)

DE FR GB IT SE

DOCDB simple family (publication)

**EP 0104541 A2 19840404**; **EP 0104541 A3 19850612**; **EP 0104541 B1 19880107**; BR 8305072 A 19840508; CA 1199586 A 19860121; CH 654067 A5 19860131; DE 3375184 D1 19880211; JP 2557616 B2 19961127; JP S5974357 A 19840426; US 4513568 A 19850430

DOCDB simple family (application)

**EP 83109057 A 19830914**; BR 8305072 A 19830919; CA 436644 A 19830914; CH 564882 A 19820924; DE 3375184 T 19830914; JP 16949183 A 19830916; US 44279982 A 19821118