

Title (en)

FORMATION OF ELECTRIC FIELD DISCHARGES.

Title (de)

ANORDNUNG ZUR ENTLADUNG ELEKTRISCHER FELDER.

Title (fr)

FORMATION DE DECHARGES DE CHAMPS ELECTRIQUES.

Publication

EP 0339043 A4 19900220 (EN)

Application

EP 88900648 A 19871211

Priority

US 94488286 A 19861222

Abstract (en)

[origin: WO8804729A1] An ignition system for hydrocarbon fuels based on the principle of "flame discharge ignition" to couple ignition energy to the initial flame front plasma (32) to convert the flame front (31) into an ignition discharge in which electrical energy is efficiently coupled to the propagating flame front, either as a "pulsing flamme discharge ignition" system or an "enhanced conventional discharge ignition". Electrical, geometrical, spark, and hydrocarbon flame front plasma discharge properties are taken into account and adjusted or tailored to create a flame discharge process capable of igniting very lean mixtures. The system is further improved by modifying the fuel's flame front plasma properties by increasing the ratio of the Carbon to Hydrogen (C/H) content of the fuel so that the C/H ratio falls in the range of 0.5 to 2.0, and/or by using additives to further increase the flame front plasma density (35) without reducing the plasma recombination coefficient.

IPC 1-7

F02P 3/06; **H01T 13/20**; **H01T 15/00**

IPC 8 full level

F02P 3/08 (2006.01); **F02P 9/00** (2006.01); **F02P 23/04** (2006.01); **H01T 13/50** (2006.01); **F02B 1/04** (2006.01)

CPC (source: EP)

F02P 3/0884 (2013.01); **F02P 9/007** (2013.01); **H01T 13/50** (2013.01); **F02B 1/04** (2013.01)

Citation (search report)

- [X] WO 8604118 A1 19860717 - CUMBUSTION ELECTROMAGNETICS [US]
- [A] WO 8102328 A1 19810820 - HENSLEY G, et al
- [A] US 4122816 A 19781031 - FITZGERALD DENNIS J, et al
- [A] US 3974412 A 19760810 - PRATT JR GEORGE W
- See references of WO 8804729A1

Designated contracting state (EPC)

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DOCDB simple family (application)

US 8703346 W 19871211; AU 1088188 A 19871211; CA 554843 A 19871218; EP 88900648 A 19871211; JP 50080388 A 19871211