

Title (en)

SYSTEMS AND METHODS OF CONVERTING FUEL

Title (de)

SYSTEME UND VERFAHREN ZUM UMWANDELN VON KRAFTSTOFF

Title (fr)

SYSTÈMES ET PROCÉDÉS DE CONVERSION DE COMBUSTIBLE

Publication

EP 1973992 A4 20120404 (EN)

Application

EP 07716591 A 20070112

Priority

- US 2007000956 W 20070112
- US 75842406 P 20060112
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Abstract (en)

[origin: WO2007082089A2] Systems and methods for converting fuel are provided wherein the system comprises at least reactors configured to conduct oxidation-reduction reactions. The first reactor comprises a plurality of ceramic composite particles, wherein the ceramic composite particles comprises at least one metal oxide disposed on a support. The first reactor is configured to reduce the least one metal oxide with a fuel to produce a reduced metal or a reduced metal oxide. The second reactor is configured to oxidize the reduced metal or reduced metal oxide to produce a metal oxide intermediate. The system may also comprise a third reactor configured to oxidize the metal oxide intermediate to regenerate the metal oxide of the ceramic composite particles.

IPC 8 full level

C10G 1/00 (2006.01)

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Citation (search report)

- [X] US 2005175533 A1 20050811 - THOMAS THEODORE J [US], et al
- [X] US 2004138060 A1 20040715 - RAPIER CHARLES R [US], et al
- [X] US 2004132833 A1 20040708 - ESPINOZA RAFAEL L [US], et al
- [Y] US 3442620 A 19690506 - HUEBLER JACK, et al
- [Y] US 4343624 A 19820810 - BELKE WILLIAM H, et al
- [Y] EP 1134187 A2 20010919 - SNAM PROGETTI [IT]
- [Y] EP 1580162 A2 20050928 - ENI SPA [IT], et al
- [Y] US 6361757 B1 20020326 - SHIKADA TSUTOMU [JP], et al
- [Y] US 3442613 A 19690506 - GROTH BERNARD J JR
- See references of WO 2007082089A2

Designated contracting state (EPC)

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DOCDB simple family (publication)

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DOCDB simple family (application)

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