

Title (en)
CRYOGEN/WATER HEAT EXCHANGER AND THE APPLICATION THEREOF TO THE SUPPLY OF GAS TO AN ON-BOARD POWER UNIT IN A VEHICLE

Title (de)
KRYOGENER WASSERWÄRMETAUSCHER UND DESSEN VERWENDUNG ZUR BEREITSTELLUNG VON GAS FÜR EINEN IN EINEM FAHRZEUG MITGEFÜHRTEN GENERATOR

Title (fr)
ECHANGEUR DE CHALEUR CRYOGENE/EAU ET APPLICATION A LA FOURNITURE DE GAZ A UN GROUPE DE PUISSANCE EMBARQUE DANS UN VEHICULE

Publication
EP 1631783 A1 20060308 (FR)

Application
EP 04742771 A 20040518

Priority
• FR 2004001226 W 20040518
• FR 0306438 A 20030527

Abstract (en)
[origin: WO2004106833A1] The invention relates to an exchanger, advantageously a plate exchanger, comprising counter-current parallel exchange sections (8,9). According to the invention, the exchange section for the water (8) has an essentially constant cross-section, whereas the exchange section (9) for the cryogen has a reduced inlet region (9a) enabling the possible formation of ice (10) in the water passage (8) to be concentrated on a small volume, without blocking said water passage. The invention can especially be applied to the supply of gaseous hydrogen stored in a liquid form to an on-board power generating device in a vehicle.

IPC 1-7
F28D 9/00; **F28F 27/02**; **F28F 19/00**; **F28F 13/08**

IPC 8 full level
C01B 3/00 (2006.01); **F17C 11/00** (2006.01); **F28D 9/00** (2006.01); **F28F 13/08** (2006.01); **F28F 19/00** (2006.01); **H01M 8/02** (2006.01); **H01M 8/04** (2006.01)

CPC (source: EP US)
C01B 3/0005 (2013.01 - EP US); **F17C 11/005** (2013.01 - EP US); **F28D 9/0062** (2013.01 - EP US); **F28F 13/08** (2013.01 - EP US); **F28F 19/006** (2013.01 - EP US); **H01M 8/04029** (2013.01 - EP US); **H01M 8/04074** (2013.01 - EP US); **F17C 2221/012** (2013.01 - EP US); **F17C 2223/0161** (2013.01 - EP US); **F17C 2223/033** (2013.01 - EP US); **F17C 2223/046** (2013.01 - EP US); **F17C 2225/0123** (2013.01 - EP US); **F17C 2225/033** (2013.01 - EP US); **F17C 2227/0316** (2013.01 - EP US); **F17C 2227/0388** (2013.01 - EP US); **F17C 2227/0393** (2013.01 - EP US); **F17C 2270/0178** (2013.01 - EP US); **F28F 2250/104** (2013.01 - EP US); **Y02E 60/32** (2013.01 - EP US); **Y02E 60/50** (2013.01 - EP)

Citation (search report)
See references of WO 2004106833A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
FR 2855600 A1 20041203; **FR 2855600 B1 20050708**; CN 1795360 A 20060628; EP 1631783 A1 20060308; JP 2007501376 A 20070125; US 2007028627 A1 20070208; US 7299642 B2 20071127; WO 2004106833 A1 20041209

DOCDB simple family (application)
FR 0306438 A 20030527; CN 200480014515 A 20040518; EP 04742771 A 20040518; FR 2004001226 W 20040518; JP 2006530364 A 20040518; US 55758705 A 20051117