

Title (en)
APPARATUS FOR GENERATING HYDROGEN FROM AMMONIA STORED IN SOLID MATERIALS AND INTEGRATION THEREOF INTO LOW TEMPERATURE FUEL CELLS

Title (de)
VORRICHTUNG ZUR ERZEUGUNG VON WASSERSTOFF AUS IN FESTSTOFFEN GESPEICHERTEM AMMONIAK UND INTEGRATION IN NIEDERTEMPERATUR-BRENNSTOFFZELLEN

Title (fr)
APPAREIL POUR GÉNÉRER DE L'HYDROGÈNE À PARTIR DE L'AMMONIAC CONTENU DANS DES MATÉRIAUX SOLIDES ET INTÉGRATION DE CET APPAREIL DANS DES PILES À COMBUSTIBLE BASSE TEMPÉRATURE

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Application
EP 11706761 A 20110302

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Abstract (en)
[origin: WO2011107279A1] An ammonia-based hydrogen generation reactor (110) comprises: an ammonia cracking chamber (1) with an ammonia cracking catalyst, an inner combustion chamber (2) with a combustion or oxidation catalyst being in thermal contact with the ammonia cracking chamber, an ammonia gas preheating chamber (3), and an outer jacket annulus (6) for recovery of heat from the combustion products exiting the combustion chamber (2), wherein the cracking chamber (1), the inner combustion chamber (2), the preheating chamber (3) and the heat recovery jacket annulus (6) are arranged concentrically. Further described is a system for generating hydrogen comprising at least one ammonia storage unit (119, 120, 400) which, when in operation, is combined with at least one hydrogen generation reactor (110), wherein, when in operation, the waste heat of the at least one hydrogen generation reactor (110) is transferred to at least one storage unit (119, 120, 400) being in operation. A power generating device further comprising a fuel cell, and a method for operating the system for generating hydrogen are also described.

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