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(54) Title (EN): RECHARGEABLE ELECTROCHEMICAL DEVICE FOR PRODUCING ELECTRIC ENERGY

(54) Title (FR): DISPOSITIF ÉLECTROCHIMIQUE RECHARGEABLE POUR LA PRODUCTION D'ÉNERGIE ÉLECTRIQUE

(57) Abstract:

(EN): An innovative device that integrates, internally to one individual electrochemical cell, the functions of an electrolyzer, a hydrogen accumulator, and a fuel cell. The device can be recharged both electrically, by connecting it to a usual battery charger, and by way of a direct injection of gaseous hydrogen. The present device is very compact and features a reduced weight, consequently it can be advantageously used both to supply power to small-size portable electronic devices and to supply power to motors of electric vehicles.

(FR): L'invention porte sur un dispositif innovant qui intègre, à l'intérieur d'une cellule électrochimique individuelle, les fonctions d'un électrolyseur, d'un accumulateur d'hydrogène et d'une pile à combustible. Le dispositif peut être rechargé aussi bien électriquement, par connexion à un chargeur de batterie habituel, que par injection directe d'hydrogène gazeux. Le présent dispositif est très compact et présente un poids réduit, par conséquent il peut être avantageusement utilisé aussi bien pour fournir de l'électricité à des dispositifs électroniques portables de petite taille que pour fournir de l'électricité à des moteurs de véhicules électriques.

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