

**5525055****APPARATUS FOR PRESETTING FUEL CELL WICK**

Menter J Alan; Zimmerman Robert C Manlius, NY, UNITED STATES assigned to Hollowick Inc

A cap for closing the burner of a liquid fuel cell and protecting the burner wick. The burner wick has upraised adjustable tabs that can be separated to control the heat output of the cell. The cap contains a die member that is arranged to move between the tabs when the cap is closed over the burner to position the tabs at a desired standard heat setting that is best suited for a majority of fuel cell applications.

**5527631****HYDROCARBON REFORMING CATALYST MATERIAL AND CONFIGURATION OF THE SAME**

Singh Prabhakar; Shockling Larry A; George Raymond A; Basel Richard A Export, PA, UNITED STATES assigned to Westinghouse Electric Corporation

A hydrocarbon reforming catalyst material comprising a catalyst support impregnated with catalyst is provided for reforming hydrocarbon fuel gases in an electrochemical generator. Elongated electrochemical cells convert the fuel to electrical power in the presence of an oxidant, after which the spent fuel is recirculated and combined with a fresh hydrocarbon feed fuel forming the reformable gas mixture which is fed to a reforming chamber containing a reforming catalyst material, where the reforming catalyst material includes discrete passageways integrally formed along the length of the catalyst support in the direction of reformable gas flow. The spent fuel and/or combusted exhaust gases discharged from the generator chamber transfer heat to the catalyst support, which in turn transfers heat to the reformable gas and to the catalyst, preferably via a number of discrete passageways disposed adjacent one another in the reforming catalyst support. The passageways can be slots extending inwardly from an outer surface of the support body, which slots are partly defined by an exterior confining wall. According to a preferred embodiment, the catalyst support is non-rigid,

porous, fibrous alumina, wherein the fibers are substantially unsintered and compressible, and the reforming catalyst support is impregnated, at least in the discrete passageways with Ni and MgO, and has a number of internal slot passageways for reformable gas, the slot passageways being partly closed by a containing outer wall.

**5527632****HYDROCARBON FUELLED FUEL CELL POWER SYSTEM**

Gardner Frederick J Derby, UNITED KINGDOM assigned to Rolls-Royce and Associates Limited

A hydrocarbon fuelled fuel cell power system comprises a fuel cell stack, a reformer and a hydrogen store. The reformer is arranged periodically to supply reformat, which contains hydrogen, to the fuel cell stack and to the hydrogen store. The hydrogen store is arranged to store the hydrogen from the reformat during the periods that the reformer operates. The hydrogen store is arranged to supply hydrogen to the fuel cell stack during periods of low load demands on the fuel cell stack and is capable of supplying hydrogen rapidly to the fuel cell stack for high load demands on the fuel cell stack. The hydrogen store also supplies hydrogen to the reformer to light up the reformer. The hydrogen store buffers the fast response of the fuel cell stack and the relatively slower response of the reformer during relatively large rapid demands on the fuel cell stack and enables the reformer to be operated in an on/off mode.

**5527633****SOLID OXIDE FUEL CELLS, A PROCESS FOR PRODUCING SOLID ELECTROLYTE FILMS AND A PROCESS FOR PRODUCING SOLID OXIDE FUEL CELLS**

Kawasaki Shinji; Ito Shigenori; Yoshioka Katsuk Nagoya, JAPAN assigned to NGK Insulators Ltd

A solid oxide fuel cell having an ion conductive solid electrolyte layer formed by a spraying method, wherein a thickness of the solid electrolyte layer is not less than 40  $\mu\text{m}$  and not more than 100  $\mu\text{m}$ , and a leakage