

**5482680****ELECTROCHEMICAL FUEL CELL ASSEMBLY WITH INTEGRAL SELECTIVE OXIDIZER**

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A method and apparatus selectively oxidizes, within the fuel cell assembly, the carbon monoxide present in a fuel stream fed to the assembly. A quantity of catalyst is contained within at least a portion of a fuel stream passageway within the stack. The carbon monoxide is selectively oxidized by the catalyst to carbon dioxide, and carbon monoxide produced by the reverse water-shift reaction is also oxidized.

**5482790****FUEL CELL POWER GENERATION SYSTEM**

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To generate electric energy to a load such as an electric car or the like, a fuel cell power generation system includes a fuel cell composed of a fuel electrode and an oxygen electrode with an electrolytic layer interposed therebetween so as to continuously supply electric power to the load, a secondary cell for supplying a required quantity of electric energy to the load at least during the initial time until the generation of electric energy is started with the fuel cell and a shifting unit serving to shift the power source of electric energy to the load from the fuel cell main body to the secondary cell or from the secondary cell to the fuel cell. An electrolytic layer constituting the fuel cell is composed of a film of high molecular material having ionic conductivity, and the secondary cell is a secondary lithium cell consisting of a nonaqueous solution based material or a solid electrolyte based material as an electrolyte.

**5482791****FUEL CELL/GAS TURBINE COMBINED POWER GENERATION SYSTEM AND METHOD FOR OPERATING THE SAME**

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A combined fuel cell/gas turbine power generation system includes a fuel cell, a reformer connected to the fuel cell for producing a hydrogen rich reformed gas by steam reforming and feeding the reformed gas to the fuel cell, an air compressor having an electric motor which drives the air compressor, the air compressor compressing air taken from open air and feeding a pressurized air to the fuel cell, a gas turbine which is connected to the fuel cell and generates power using, as a working fluid, an exhaust combustion gas from the reformer obtained by burning an off gas and off air from the fuel cell, and a generator which is coaxially connected to the gas turbine and driven by the axial output power of the gas turbine, the generator generating power with the axial output power of the generator, the output power of the generator driving the electric motor in the air compressor.

**5482792****ELECTROCHEMICAL CELL PROVIDED WITH ION EXCHANGE MEMBRANES AND BIPOLAR METAL PLATES**

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A membrane electrochemical cell, in particular a fuel cell, of an improved type comprising a multiplicity of cell elements, each element made up of bipolar plates, current collectors, electrodes and membranes, wherein the function of electric current transmission through the cell elements, the release of heat towards the outside environment, the distribution of electric current to the electrodes and membranes, the removal of heat from the electrodes and membranes and the distribution of the reactants and products are performed by distinct components, in particular bipolar plates for the first two and porous electroconductive collectors for the others.