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(54) **BIPOLAR PLATE/DIFFUSER FOR A PROTON EXCHANGE MEMBRANE FUEL CELL**

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Related U.S. Application Data

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(51) **Int. Cl.**⁷ **H01M 8/10**

(52) **U.S. Cl.** **429/39; 429/34; 429/38**

(58) **Field of Search** **429/34, 38, 39, 429/40; 423/447.3**

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(57) **ABSTRACT**

A combination bipolar plate/diffuser fuel cell component includes an electrically conducting solid material having:

- a porous region having a porous surface; and
- a hermetic region,

the hermetic region defining at least a portion of at least one coolant channel, the porous region defining at least a portion of at least one reactant channel, the porous region defining a flow field medium for diffusing the reactant to the porous surface.

18 Claims, 2 Drawing Sheets

