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(54) **Title:** FUEL CELL BIPOLAR PLATES

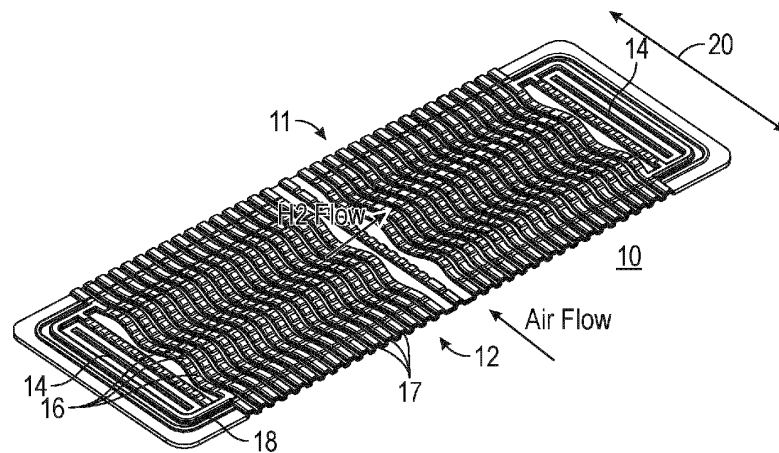


FIG. 3

(57) **Abstract:** A hydrogen fuel cell unit is made from identical bipolar plates, each stamped from a single sheet of steel and coated with ta-C, the unit comprising, in order(i) a first bipolar plate having a front face and a rear face, the rear face being an anode in the unit, (ii) a first membrane electrode assembly, (iii) a second bipolar plate having a front face and a rear face, the front face being a cathode in the unit and the rear face being an anode in the unit, wherein the first membrane electrode assembly is between the first and second bipolar plates, and a flow path is provided between the rear face of the first bipolar plate and the first membrane electrode assembly for flow of hydrogen, and a flow path is provided between the front face of the second bipolar plate and the first membrane electrode assembly for flow of oxygen, (iv) a second membrane electrode assembly, and (v) a third bipolar plate having a front face and a rear face, the front face being a cathode in the unit, wherein the second membrane electrode assembly is between the second and third bipolar plates, and a flow path is provided between the rear face of the second bipolar plate and the second membrane electrode assembly for flow of hydrogen, and a flow path is provided between the front face of the third bipolar plate and the second membrane electrode

[Continued on next page]

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assembly for flow of oxygen.