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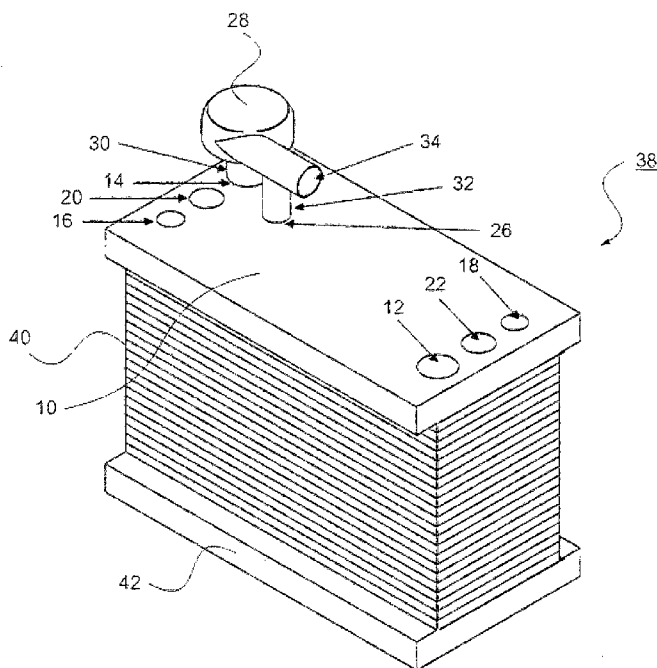
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(54) **Title:** END PLATE ASSEMBLY FOR PROTON EXCHANGE MEMBRANE FUEL CELL AND FUEL CELL ASSEMBLY EMPLOYING SAME



(57) **Abstract:** An end plate assembly for a proton exchange membrane (PEM) fuel cell and a fuel cell assembly (38) are provided. The end plate assembly includes a planar member (10) having an inlet port (12) and an outlet port (14), and a pump (28). The pump (28) includes a suction inlet (30) connected to the outlet port (14) of the planar member (10), a first discharge outlet (32) in fluid communication with the inlet port (12) of the planar member (10) and a second discharge outlet (34). The pump (28) is arranged to suck exhaust from a cathode side of the proton exchange membrane fuel cell via the outlet port (14) of the planar member (10) to create a negative pressure environment in the cathode side of the proton exchange membrane fuel cell and to re-circulate a portion of the exhaust via the inlet port (12) of the planar member (10) to hydrate a membrane of the proton exchange membrane fuel cell.