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- (71) **Applicant:** INTELLIGENT ENERGY LIMITED
[GB/GB]; Charnwood Building, Holywell Park, Ashby
Road, Loughborough LE11 3GB (GB).
- (72) **Inventor:** HOOD, Peter David; Intelligent Energy Lim-
ited, Charnwood Building, Holywell Park, Ashby Road,
Loughborough LE11 3GB (GB).
- (74) **Agent:** CHARIG, Raymond Julian; The Belgrave Centre,
Talbot Street, Nottingham, Nottinghamshire NG1 5GG
(GB).
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(54) **Title:** FUEL CELL STACK ASSEMBLY

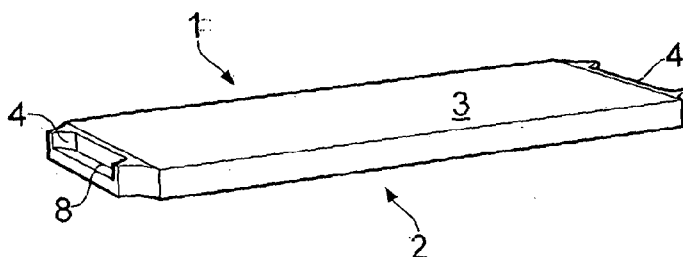


FIG. 1

(57) **Abstract:** A fuel cell stack assembly comprises a plurality of fuel cells in a stack, the stack defining two opposing parallel end faces. An end plate is disposed at each opposing end face of the stack. Each end plate defines a compression surface adjacent to and in compressive relationship with a respective one of the two opposing parallel end faces. A coupling mechanism is attached to the end plates to thereby maintain the fuel cells in the stack under compression. At least one, preferably both, of the end plates comprise a preformed element defining the compression surface, the preformed element being configured with a predetermined curvature such that the compression surface is a convex surface when the preformed element is not under load whereas, under the application of the load to maintain the fuel cells under compression, flexure of the preformed element between elements of the coupling mechanism causes the compression surface to become a substantially planar surface. This provides uniform pressure distribution across the end faces of the fuel cell stack using fewer and lighter weight components.

