

(12) **United States Patent**
Gardner et al.

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(54) **ENERGY STORAGE STRUCTURE, METHOD OF MANUFACTURING A SUPPORT STRUCTURE FOR SAME, AND MICROELECTRONIC ASSEMBLY AND SYSTEM CONTAINING SAME**

(58) **Field of Classification Search**
CPC H01G 11/04; H01G 11/30; H01G 11/26; H01G 9/00
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See application file for complete search history.

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(57) **ABSTRACT**
An energy storage structure includes an energy storage device containing at least one porous structure (110, 120, 510, 1010) that contains multiple channels (111, 121), each one of which has an opening (112, 122) to a surface (115, 116, 515, 516, 1015, 1116) of the porous structure, and further includes a support structure (102, 402, 502, 1002) for the energy storage device. In a particular embodiment, the porous structure and the support structure are both formed from a first material, and the support structure physically contacts a first portion (513, 813, 1213) of the energy storage device and exposes a second portion (514, 814, 1214) of the energy storage device.

10 Claims, 9 Drawing Sheets

