

Title (en)
ENERGY STORAGE DEVICE AND METHODS OF MANUFACTURE

Title (de)
Energiespeichervorrichtung und Verfahren zur Herstellung

Title (fr)
DISPOSITIF D'ACCUMULATION D'ENERGIE ET SON PROCEDE DE FABRICATION

Publication
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Application
EP 93921652 A 19930917

Priority

- US 9308803 W 19930917
- US 94741492 A 19920918
- US 94729492 A 19920918
- US 95850692 A 19921007

Abstract (en)
[origin: WO9407272A1] A dry preunit (10), includes a plurality of cells (110, 112, 114) in a true bipolar configuration, which are stacked and bonded together, to impart to the device an integral and unitary construction. Each cell (114) includes two electrically conductive electrodes (111A, 111B) that are spaced apart by a predetermined distance. The cell (114) also includes two identical dielectric gaskets (121, 123) that are interposed, in registration with each other, between the electrodes (111A, 111B), for separating and electrically insulating these electrodes. When the electrodes (111A, 111B), and the gaskets (121, 123) are bonded together, at least one fill gap (130) is formed for each cell. Each cell (114) also includes a porous and conductive coating layer (119, 120) that is formed on one surface of each electrode. The coating layer (119) includes a set of closely spaced-apart peripheral microprotrusions (125), and a set of distally spaced-apart central microprotrusions (127). These microprotrusions (125, 127) impart structural support to the cells, and provide additional insulation between the electrodes. An energy storage device (10A) such as a capacitor, is created with the addition of an electrolyte to the gap (130) of the dry preunit (10) and subsequent sealing of the fill ports.

IPC 1-7
H01M 2/08; **H01M 2/18**; **H01M 6/12**; **H01M 6/32**; **H01G 9/04**; **B05D 1/32**; **H01M 2/16**; **H01M 4/04**; **H01M 6/48**; **H01M 10/04**

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B05D 1/18 (2006.01); **H01G 9/00** (2006.01); **H01G 11/04** (2013.01); **H01M 4/00** (2006.01); **H01M 4/04** (2006.01); **H01M 4/58** (2010.01); **H01M 6/48** (2006.01); **H01M 10/04** (2006.01); **H01M 50/184** (2021.01); **H01M 50/186** (2021.01); **H01M 50/548** (2021.01); **H01M 50/557** (2021.01); **H01M 50/627** (2021.01)

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H01G 11/04 (2013.01 - EP US); **H01G 11/28** (2013.01 - EP US); **H01G 11/52** (2013.01 - EP US); **H01G 11/84** (2013.01 - EP US); **H01M 4/00** (2013.01 - EP); **H01M 4/04** (2013.01 - EP); **H01M 4/0404** (2013.01 - EP); **H01M 4/0409** (2013.01 - EP); **H01M 4/0416** (2013.01 - EP); **H01M 4/0419** (2013.01 - EP); **H01M 4/0428** (2013.01 - EP); **H01M 4/045** (2013.01 - EP); **H01M 4/0471** (2013.01 - EP); **H01M 4/58** (2013.01 - EP); **H01M 6/48** (2013.01 - EP); **H01M 10/0418** (2013.01 - EP); **H01M 50/184** (2021.01 - EP US); **H01M 50/186** (2021.01 - EP US); **H01M 50/46** (2021.01 - EP); **H01M 50/548** (2021.01 - EP US); **H01M 50/557** (2021.01 - EP US); **H01M 50/627** (2021.01 - EP US); **H01M 4/0438** (2013.01 - EP); **Y02E 60/10** (2013.01 - EP); **Y02P 70/50** (2015.11 - EP)

Citation (search report)

- [A] US 4764181 A 19880816 - NAKANO TSUNETOMO [JP], et al
- [A] WO 9207371 A1 19920430 - MOTOROLA INC [US]
- [A] US 3804673 A 19740416 - BUTLER E
- See also references of WO 9407272A1

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