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Suzuki et al.

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(54) **FLAT NON-AQUEOUS ELECTROLYTE SECONDARY CELL**

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Related U.S. Application Data

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(51) **Int. Cl.**

H01M 2/02	(2006.01)
H01M 2/08	(2006.01)
H01M 4/58	(2006.01)
H01M 10/40	(2006.01)

(52) **U.S. Cl.** **429/162**; 429/94; 429/127; 429/124; 429/185; 429/128; 429/176; 429/175

(58) **Field of Classification Search** None
See application file for complete search history.

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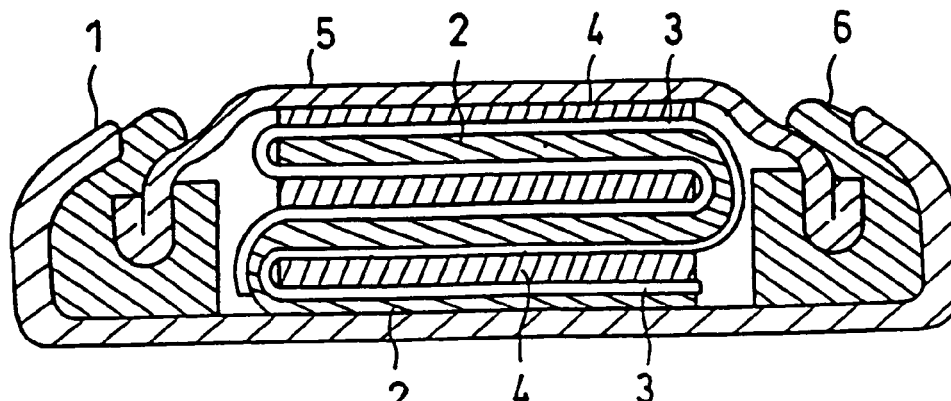
Primary Examiner—Patrick Ryan
Assistant Examiner—Angela Martin

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(57) **ABSTRACT**

A non-aqueous electrolyte secondary cell containing an electricity-generating element with at least a cathode, a separator and an anode and a non-aqueous electrolyte inside a cathode case, electrode units each consisting of the cathode and the anode opposite to each other via the separator laminated to form an electrode group, or an electrode unit in a sheet form consisting of the cathode and the anode opposite to each other via the separator wound to form an electrode group, or a sheet-shape cathode wrapped with the separator except for a part contacting at inner face of cathode case and a sheet-shaped anode set on the sheet-shaped cathode in a right angled position each other and bent alternately to form an electrode group, and the total sum of the areas of the opposing cathode and anode in the electrode group larger than the area of the opening of an insulating gasket in a sealed portion in the cathode case or than the area of an opening in a sealed plate in a sealed portion in the cathode case.

33 Claims, 13 Drawing Sheets



US 7,566,515 B2

Page 2

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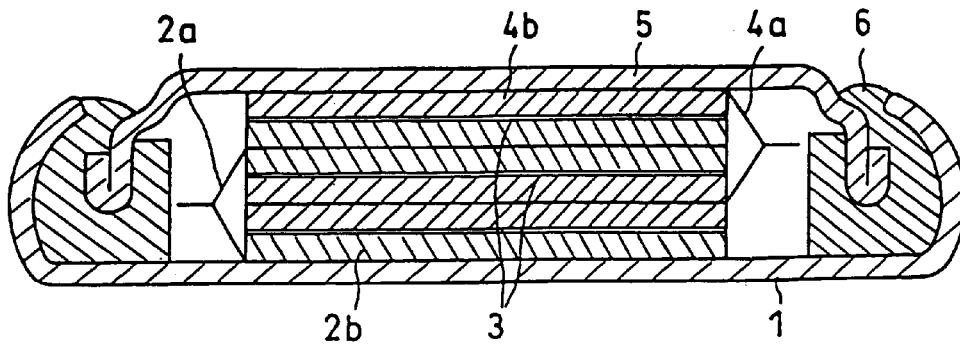


FIG. 1

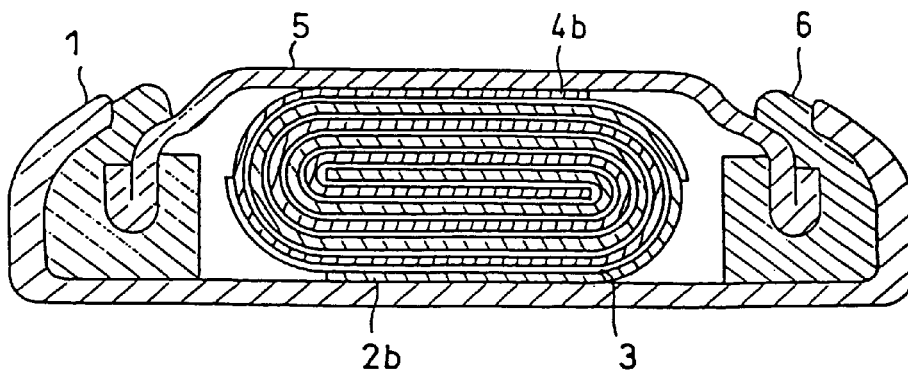


FIG. 2

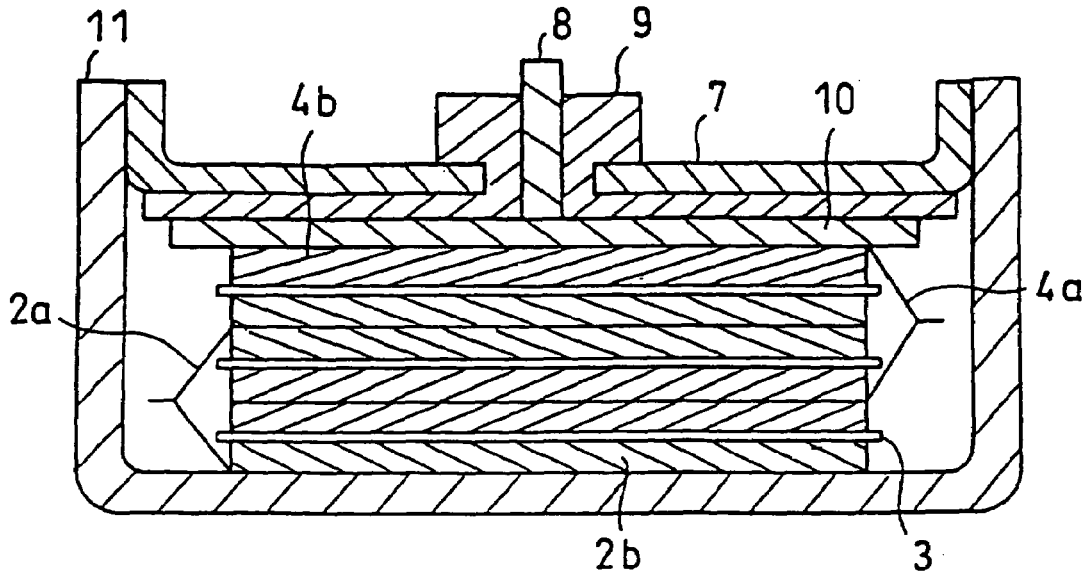


FIG. 3

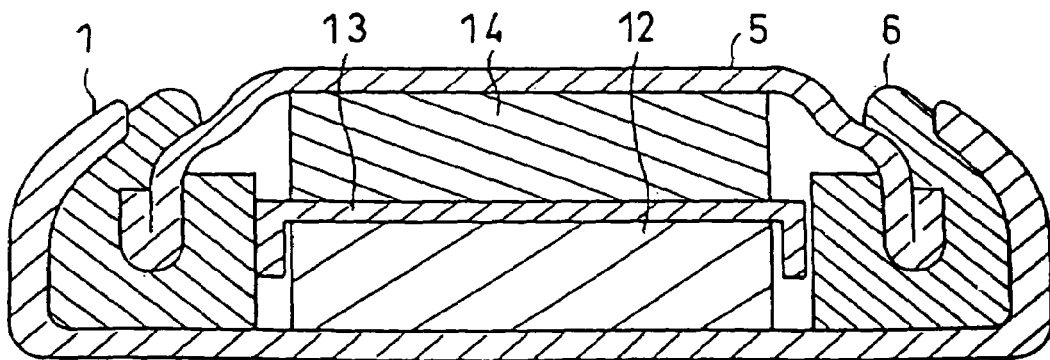


FIG. 4

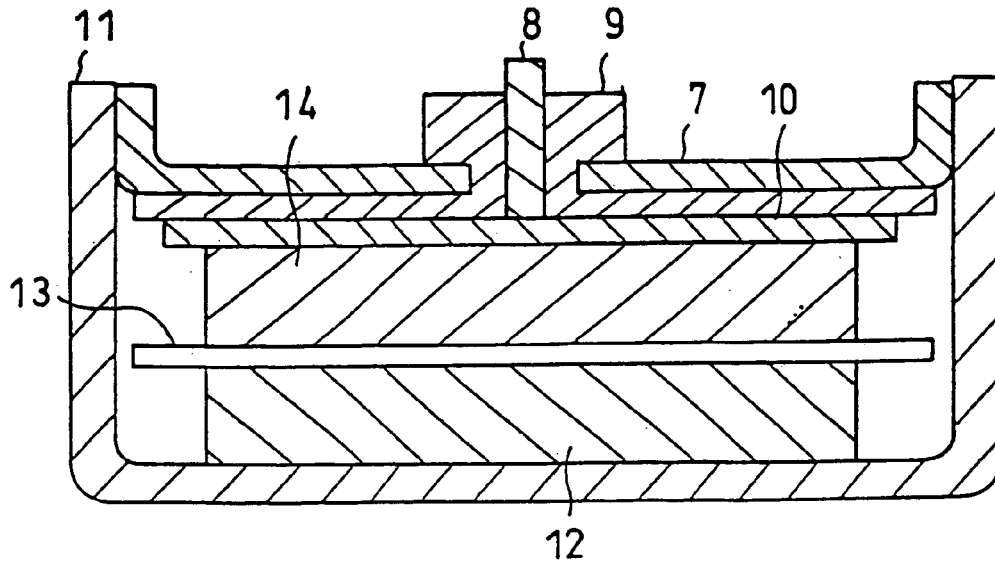


FIG. 5

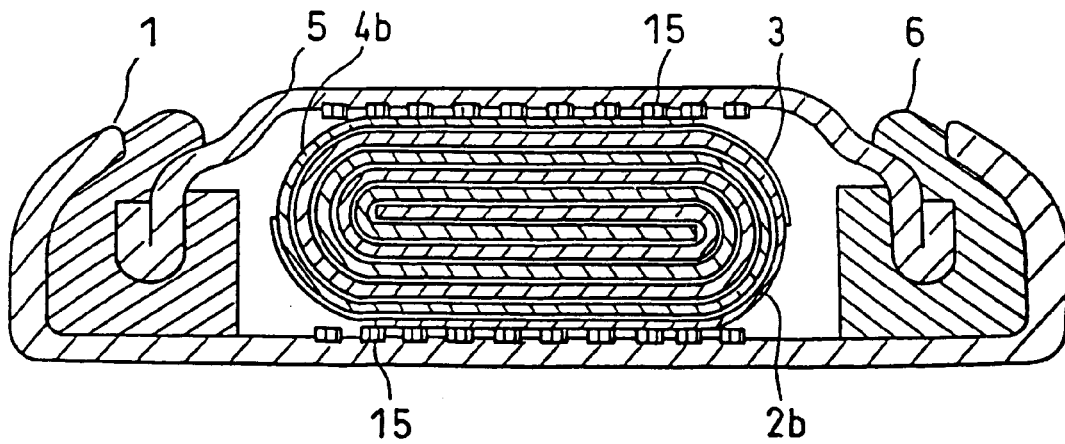


FIG. 6

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