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**SOLID POLYMERIC ELECTROLYTE
INCLUDING A CROSS-LINKED
POLYETHER ENCOMPASSING AN ION
COMPOUND AND A LIQUID
PLASTICIZER**

Andrei Maria; Roggero Arnaldo; Soprani Massimo;
Gandini Alberto Berceto, ITALY assigned to
Eniricerche SpA

A solid polymeric electrolytic membrane comprising a solution of an ion compound in a cross-linked polyether including a liquid plasticizer obtained by: a) copolymerizing a vinyl ether of the formula: (*See Patent for Tabular Presentation*) PS with an allyl vinyl ether of the formula: (*See Patent for Tabular Presentation*) PS where R is a methyl or ethyl radical, n is an integer ranging from 1 to 16, m is an integer ranging from 1 to 10 and the molar ratio of (I) to (II) is between 70/30 and 95/5, forming an allyl copolymer; b) hydrosilating the allyl double bonds of the allyl copolymer by reaction with trimethoxy or triethoxy silane to form a hydrosilated copolymer; c) cross-linking the hydrosilated copolymer by means of a diprotic cross-linking agent in a plasticizer solution of an oligomer or a dipolar aprotic solvent present in a quantity of 20 to 80% by weight and in the presence of an ion compound, and evaporating the low-boiling compounds formed in step (c) to obtain a membrane capable of retaining the liquid plasticizer.

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**FABRICATION OF ALKANE POLYMER
ELECTROLYTE**

Olsen Ib I San Jose, CA, UNITED STATES

A polymeric electrolyte comprising: (a) an alkane monomer having 2 to 100 carbon atoms which has been functionalized with a compound which (1) is reactive with said alkane and (2) which will enable the alkane to undergo cross-linking to form a polymeric network, the number of functional groups being selected such that the polymeric electrolyte does not react with an alkali metal anode; (b) one or more non-aqueous solvents; (c)

one or more inorganic salts which render the polymeric electrolyte conductive. The polymeric electrolyte is employed in an electrolytic cell comprising; (i) an alkali metal anode; (ii) a cathode; and (iii) interposed between the anode and cathode, a polymeric electrolyte.

5501922

**POLYOXOMETALATE CARBON
ELECTRODES AND ENERGY STORAGE
DEVICE MADE THEREOF**

Li Changming; Bai Lijun; Ke Lian Keryn Vernon
Hills, IL, UNITED STATES assigned to Motorola Inc

An electrode for an energy storage device is made from an activated carbon support. The activated carbon has adsorbed onto it a protonated polymer, which has a polyoxometalate absorbed into the polymer. Preferably, the protonated polymer is poly(4-vinylpyridine), and the polyoxometalate is isopolymolybdate. An energy storage device, such as a capacitor, can be made from the modified carbon electrode. A pair of the coated carbon electrodes are placed in contact with an electrolyte to form the device.

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**BATTERY WITH A SPIRAL ELECTRODE
UNIT**

Narukawa Satoshi; Amazutsumi Toru; Moriwaki
Kazuro Sumoto, JAPAN assigned to Sanyo Electric
Co Ltd

Novel lead location and winding configuration allow more efficient spiral electrode fabrication for a battery that is less susceptible to internal short circuits. The battery has separator material sandwiched between positive and negative electrode strips, which are rolled into a spiral electrode unit. The electrodes have active material that covers a core except in regions where leads are attached. One lead is positioned at the outermost winding, and both sides of each lead face either separator material only or the same polarity electrode via separator material. A special lead taping processing step is eliminated.