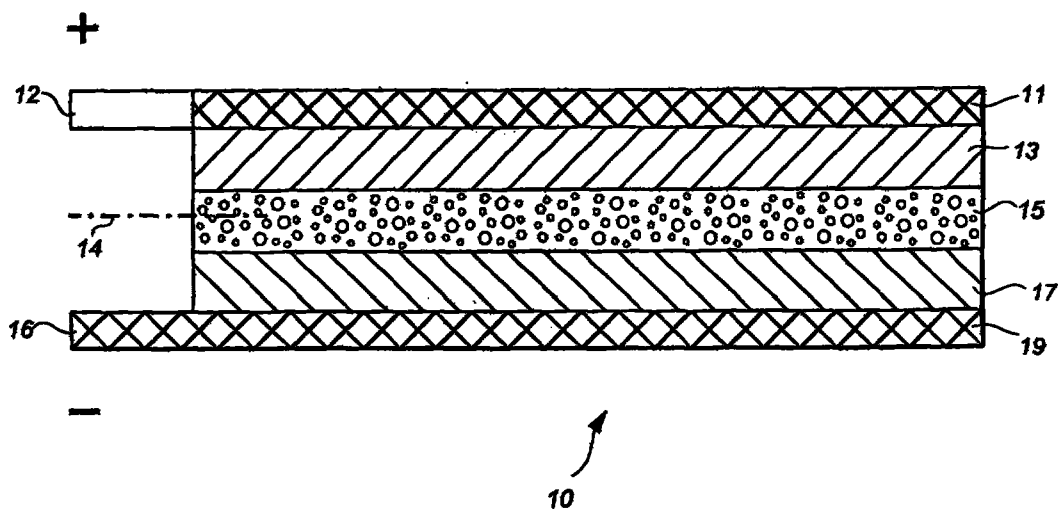




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(54) Title: RECHARGEABLE HYBRID BATTERY/SURPERCAPACITOR SYSTEM



(57) Abstract

A rechargeable hybrid battery/supercapacitor electrical storage system capable of providing high energy and high power densities comprises an intercalation electrode (17) and a capacitor electrode (13) combined with a separator (15) and electrically-conductive current collector elements (11, 19) to form a unitary cell structure (10). An electrolyte solution of a dissociable salt absorbed into the porous structure of the separator (15) provides complementary ion species which respectively reversibly intercalate into the one electrode (17) and capacitively adsorb at the surface of the other electrode (13) upon the application of charging current. The high density stored electrical energy may be recovered at high power over extended periods upon demand of a utilizing device and may be rapidly restored to stable capacity through numerous charging cycles.