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(54) Title: A SUPERCAPACITOR COMPRISING A SEPARATOR WITH A PERMANENT ELECTRICAL DIPOLE

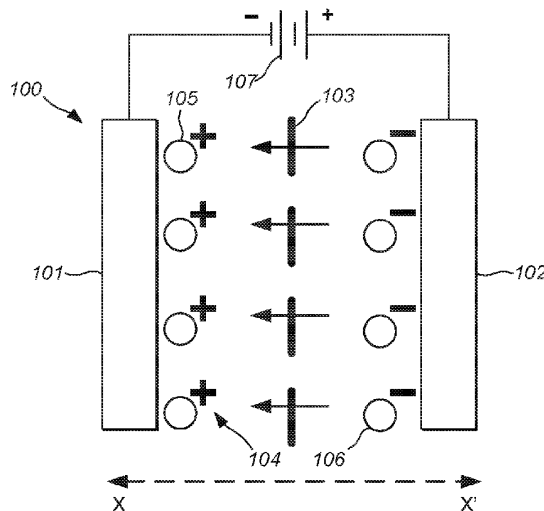


FIG. 1

(57) Abstract: A supercapacitor comprising a separator with a permanent electrical dipole A supercapacitor is disclosed, comprising a first electrode, a second electrode, and a separator disposed between the first and second electrodes. The separator comprises a permanent electrical dipole, and is arranged such that the permanent electrical dipole is oriented so as to present an energy barrier to inhibit a self-discharge diffusion of ions stored on the first and second electrodes while the supercapacitor is in a charged state. In some embodiments the separator comprises a nanofibre film, which may for example be formed by electrospinning. A method of fabricating the supercapacitor is also disclosed.

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