CLAIMS

1. An ionic conductive battery or cell having an electron conduction function via an electric double layer capacitor, comprising an anode electrode and a cathode electrode, both having an electron conductive property ,which are connected to each other by an external circuit with load, while the anode electrode and the cathode electrode are opposed to each other via the electrolytic solution having an ion conductive property, where an active material is subjected to an oxidation reaction at the anode electrode while the active material is subjected to the reduction reaction at the cathode electrode to generate an electric power,

wherein the cathode electrode is provided with a plurality of protrusions mounted at regular intervals along the cathode electrode plane in a manner to protrude against the anode electrode surface, so that the protrusion electrode is brought close to the anode electrode surface to form an electric double layer capacitor between the protrusion electrode tip of the cathode electrode and the anode electrode surface so as to make an electron conductive function where electrons flow through the electric double layer capacitor from the protrusion tip of the cathode electrode to the anode electrode surface, and wherein the electrolytic solution contains a dipole compound so as to form the dipole double layer capacitor.

2. The ionic conductive battery or cell according to claim 1, wherein the electron conductive function or conductivity can be realized by bring electrons having a minus charge from the tip of the cathode electrode to metal ions having a plus charge formed at the surface of the anode electrode.

3. The ionic conductive battery or cell according to claim 1, wherein the cathode electrode can be made from copper or its alloy while the anode electrode can be made from one selected from a group consisting of Magnesium, Aluminum, Zinc and an alloy thereof, and wherein the electric solution is an alkalic solution containing hydrogen peroxide.

4. The ionic conductive battery according to claim 1, wherein the electric solution contains a dipole compound having a dipole efficiency greater than or equal to 2.0 e.s.u.×15 power to 10 (10^{15}) to form the dipole electric double layer capacitor at an interface between the electrodes in a manner that at least one of the dipole molecule is sandwiched between the cathode electrode and

the anode electrode, whereby providing a micro-capacitor having the electron conductive function from the cathode electrode to the anode electrode.