

Title (en)
NANO-SCALE ENERGY CONVERSION DEVICE

Title (de)
VORRICHTUNG ZUR UMWANDLUNG VON NANOSKALIGER ENERGIE

Title (fr)
DISPOSITIF DE CONVERSION D'ÉNERGIE NANOMÉTRIQUE

Publication
EP 3931858 A1 20220105 (EN)

Application
EP 20712763 A 20200221

Priority

- US 201916284979 A 20190225
- US 201916284967 A 20190225
- US 201916284987 A 20190225
- US 2020019232 W 20200221

Abstract (en)
[origin: WO2020176345A1] Embodiments relate to an apparatus for a nano-scale energy converter and an electric power generator. The apparatus includes two electrodes separated by a distance. The first electrode is manufactured to have a first work function value and the second electrode is manufactured to have a second work function value, with the first and second work function values being different. A cavity is formed by the distance between the first and second electrodes, and a nanofluid is disposed in the cavity. The nanofluid includes nanoparticles suspended in a dielectric medium. The nanoparticles have a third work function value that is greater than the first and second work function values. The relationship of the work function values of the nanoparticles to the work function values of the electrodes optimizes the transfer of electrons to the nanoparticles through Brownian motion and electron hopping.

IPC 8 full level
H01J 45/00 (2006.01)

CPC (source: EP IL)
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