

Office of the Controller General of Patents, Designs & Trade Marks Department of Industrial Policy & Promotion. Ministry of Commerce & Industry, Government of India



(12) PATENT APPLICATION PUBLICATION

(21) Application No.202241010368 A

(19) INDIA

(51) International

(86) International

(87) International

(62) Divisional to

Application Number

Filing Date

Publication No

Filing Date

(61) Patent of Addition :NA

to Application Number :NA Filing Date

Application No

classification

(22) Date of filing of Application :25/02/2022

(43) Publication Date: 04/03/2022

(54) Title of the invention: HUMAN MOTION BASED ENERGY HARVESTING DEVICE.

:H02N0002180000, F03G0007000000.

H02N0011000000, H01Q0021060000,

F03G0003000000

:PCT//

· NA

·NA

:NA

:01/01/1900

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The present invention reports an energy harvesting device to harvest electrical energy from body motion energy which comprises atleast two beams and atleast two masses selectively disposed to have 2-DOF movement with wide bandwidth attributing to a frequency range between two amplitude peaks at resonances. The masses are located at end of the beams and atleast one of said masses is configured to move in accordance with the body movement and generate a mechanical power, which is then converted into an electrical power.

No. of Pages: 18 No. of Claims: 7