US 20220360199A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2022/0360199 A1**

Yajima et al. (43) **Pub. Date: Nov. 10, 2022**

(54) **ENVIRONMENTAL ENERGY HARVESTING DEVICE**

(71) Applicants: **The University of Tokyo**, Bunkyo-ku,Tokyo (JP); **Saginomiya Seisakusho, Inc.**, Nakano-ku, Tokyo (JP)

(72) Inventors: **Takeaki Yajima**, Tokyo (JP); **Hiroshi Toshiyoshi**, Tokyo (JP); **Hiroaki Honma**, Tokyo (JP); **Yukiya Tohyama**, Tokyo (JP); **Hiroyuki Mitsuya**, Sayama-shi (JP)

(21) Appl. No.: **17/621,398**

(22) PCT Filed: **Jun. 19, 2020**

(86) PCT No.: **PCT/JP2020/024252**

§ 371 (c)(1),
(2) Date: **Dec. 21, 2021**

(30) **Foreign Application Priority Data**

Jun. 24, 2019 (JP) 2019-116310

Publication Classification

(51) **Int. Cl.**
H02N 11/00 (2006.01)
G05F 1/56 (2006.01)

(52) **U.S. Cl.**
CPC ***H02N 11/002*** (2013.01); ***G05F 1/561*** (2013.01)

(57) **ABSTRACT**

An environmental energy harvesting device comprises: an energy converting element that converts environmental energy into electric energy; an environmental sensor that is disposed in an identical environment as the energy converting element; and a power supply circuit that receives electricity converted into by the energy converting element and outputs the electricity to an outside. The power supply circuit changes an operation condition in accordance with an output of the environmental sensor.