US 20220360116A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2022/0360116 A1**

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

(54) **WIRELESS POWER SYSTEM HAVING IDENTIFIABLE RECEIVERS**

(71) Applicant: **Wi-Charge Ltd.**, Rehovot (IL)

(72) Inventors: **Yoav Biderman**, Tel Aviv (IL); **Ortal Alpert**, Ness Ziona (IL); **Ori Refael Mor**, Tel Aviv (IL); **Omer Nahmias**, Aminadav (IL); **Lior Golan**, Ramat Gan (IL); **Ran Sagi**, Tel Aviv (IL); **Zohar Levin**, Rehovot (IL); **Alexander Slepoy**, Chandler, AZ (US); **Yan Rosh**, Tel Aviv (IL); **Eyal Conforti**, Tel Aviv (IL)

(73) Assignee: **Wi-Charge Ltd.**, Rehovot (IL)

(21) Appl. No.: **17/745,359**

(22) Filed: **May 16, 2022**

Related U.S. Application Data

(63) Continuation of application No. 17/057,799, filed on Nov. 23, 2020, now Pat. No. 11,342,797, filed as application No. PCT/IL2019/050587 on May 23, 2019.

(60) Provisional application No. 62/711,643, filed on Jul. 30, 2018, provisional application No. 62/675,313, filed on May 23, 2018.

Publication Classification

(51) **Int. Cl.**

H02J 50/60	(2006.01)
H02J 50/80	(2006.01)
H02J 50/30	(2006.01)
H02J 50/90	(2006.01)

(52) **U.S. Cl.**

CPC ***H02J 50/60*** (2016.02); ***H02J 50/80*** (2016.02); ***H02J 50/30*** (2016.02); ***H02J 50/90*** (2016.02); *H02J 2310/12* (2020.01)

(57) **ABSTRACT**

A wireless power transmitter system for directing a high energy beam towards receivers fitted with identifying signs. One type of the identifying signs may have asymmetric shape properties, such that their mirror image cannot be matched to their actual shape, even after the image is rotated, tilted or otherwise geometrically manipulated. The system can thus determine whether a detected image of a sign is a true image received directly from said receiver, or is received after the imaged beam has undergone a reflection between the receiver and the transmission system. In the latter case, the system can prevent high power transmission from being directed to a location other than a real receiver, which could be a safety hazard. Other types of identifying signs may be located in or on the borders of different zones of a transmission space, to identify zones where transmission may be allowed or prohibited.