



US 20230232552A1

(19) **United States**(12) **Patent Application Publication**
KWON et al.(10) **Pub. No.: US 2023/0232552 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **BATTERY RACK****H05K 7/20** (2006.01)**H01M 50/264** (2006.01)(71) Applicant: **SK INNOVATION CO., LTD.**, Seoul
(KR)**H01M 50/211** (2006.01)**H01M 50/509** (2006.01)(72) Inventors: **Dae Won KWON**, Daejeon (KR);
Yong Uk KIM, Daejeon (KR)(52) **U.S. Cl.**CPC **H05K 5/0213** (2013.01); **H01M 10/647**
(2015.04); **H01M 10/613** (2015.04); **H05K**
7/20 (2013.01); **H05K 5/0217** (2013.01);
H01M 50/264 (2021.01); **H01M 50/211**
(2021.01); **H01M 50/509** (2021.01)(21) Appl. No.: **18/190,127**(22) Filed: **Mar. 27, 2023****Related U.S. Application Data**(63) Continuation of application No. 17/577,314, filed on
Jan. 17, 2022, now Pat. No. 11,647,596.**Foreign Application Priority Data**

Apr. 26, 2018 (KR) 10-2018-0048503

Publication Classification(51) **Int. Cl.****H05K 5/02** (2006.01)**H01M 10/647** (2006.01)**H01M 10/613** (2006.01)

(57)

ABSTRACT

The present invention provides a battery rack including: a housing; a plurality of battery modules stacked in the housing; and a connection member configured to electrically connect the plurality of battery modules, wherein each of the plurality of battery modules includes a plurality of battery submodules stacked on each other, and each of the plurality of battery submodules comprises: at least one cooling member; and a plurality of battery cells located on both sides with the at least one cooling member interposed therebetween, wherein at least two of the plurality of battery cells are located on each of both sides of the at least one cooling member.