

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0213544 A1 Luo et al.

Jun. 27, 2024 (43) **Pub. Date:**

(54) JELLY-ROLL ELECTRODE ASSEMBLY, BATTERY CELL, BATTERY, AND ELECTRICAL DEVICE

(71) Applicant: CONTEMPORARY AMPEREX TECHNOLOGY CO., LIMITED,

Ningde City (CN)

(72) Inventors: Wei Luo, Ningde (CN); Longfei Yang,

Ningde (CN); Limei Yang, Ningde (CN); Simin Ye, Ningde (CN)

(73) Assignee: CONTEMPORARY AMPEREX TECHNOLOGY CO., LIMITED,

Ningde City (CN)

(21) Appl. No.: 18/599,922

(22) Filed: Mar. 8, 2024

Related U.S. Application Data

(63)Continuation of application No. PCT/CN2022/ 138049, filed on Dec. 9, 2022.

(30)Foreign Application Priority Data

Jan. 5, 2022 (CN) 202210010096.4

Publication Classification

(51) Int. Cl.

H01M 10/0587 (2006.01)H01M 10/04 (2006.01)H01M 50/209 (2006.01)

(52)U.S. Cl.

CPC ... H01M 10/0587 (2013.01); H01M 10/0409 (2013.01); H01M 10/0431 (2013.01); H01M 50/209 (2021.01); H01M 2220/20 (2013.01)

(57)**ABSTRACT**

This application provides a jelly-roll electrode assembly, a battery cell, a battery, an electrical device, and a method and equipment for manufacturing the jelly-roll electrode assembly. The application relates to the field of battery technology. The jelly-roll electrode assembly includes a positive electrode plate. The positive electrode plate includes a positive current collector and a first positive active material layer disposed on an inner surface of the positive current collector. The positive electrode plate includes a plurality of layers of bend portion located in a bend region and arranged sequentially from inside to outside. The first positive active material layer includes a plurality of first positive active material portions located in the plurality of layers of bend portion. A plurality of first grooves are created in at least one of the first positive active material portions.

<u>23</u>

