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(19) **United States**(12) **Patent Application Publication****Koide et al.**(10) **Pub. No.: US 2024/0213545 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **BIPOLAR LEAD-ACID STORAGE BATTERY****H01M 4/68** (2006.01)**H01M 50/477** (2006.01)(71) Applicants: **The Furukawa Battery Co., Ltd.**,
Yokohama (JP); **Furukawa Electric Co., Ltd.**, Tokyo (JP)(52) **U.S. Cl.**
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H01M 2004/029 (2013.01)(72) Inventors: **Ayano Koide**, Iwaki (JP); **Keizo Yamada**, Iwaki (JP)(21) Appl. No.: **18/424,076**(57) **ABSTRACT**(22) Filed: **Jan. 26, 2024****Related U.S. Application Data**

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In a bipolar lead-acid storage battery including a main substrate in which cell members are individually accommodated in spaces, a positive electrode current collector plate is disposed on one surface of the main substrate, and a negative electrode current collector plate is disposed on the other surface of the main substrate, the corrosion of the thin-formed positive electrode current collector plate is prevented to extend a life of the bipolar lead-acid storage battery. A thickness (T1) of a positive electrode current collector plate disposed on one surface of a main substrate, which is a substrate disposed between adjacent cell members, ranges from 0.15 mm to 0.75 mm. A ratio (T1/T2) of the thickness (T1) of the positive electrode current collector plate relative to the thickness (T2) of a negative electrode current collector plate disposed on another face of the main substrate ranges from 1.5 to 6.5.

