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(19) **United States**(12) **Patent Application Publication**
Chi et al.(10) **Pub. No.: US 2023/0231173 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **POUCH-SHAPED BATTERY CASE SHAPING APPARATUS INCLUDING VOLATILE LUBRICANT SUPPLY UNIT AND METHOD USING THE SAME**(71) Applicant: **LG Energy Solution, Ltd.**, Seoul (KR)(72) Inventors: **Ho June Chi**, Daejeon (KR); **Hang June Choi**, Daejeon (KR); **Jeong Oh Moon**, Daejeon (KR); **Kyu Hyun Choi**, Daejeon (KR); **Jin Hak Kong**, Daejeon (KR)(73) Assignee: **LG Energy Solution, Ltd.**, Seoul (KR)(21) Appl. No.: **17/924,567**(22) PCT Filed: **Sep. 17, 2021**(86) PCT No.: **PCT/KR2021/012768**

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(57)

ABSTRACT

A pouch-shaped battery case shaping apparatus includes a die having an open recess sized to correspond to an electrode assembly, a punch configured to draw a sheet into the open recess and thereby shape the sheet, a holder configured to fix ends of the sheet to the die during drawing of the sheet, and a lubricant supply unit configured to supply a lubricant to the sheet to minimize surface damage to the sheet due to the drawing of the sheet. A pouch-shaped battery case manufacturing process uses the pouch-shaped battery case shaping apparatus to shape the sheet.

