



US 20240213868A1

(19) **United States**(12) **Patent Application Publication**
Ye(10) **Pub. No.: US 2024/0213868 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **RECIPROCATING MAGNETIC LEVITATION
LINEAR MOTOR AND ELECTRIC SHEAR
DEVICE**(52) **U.S. Cl.**CPC *H02K 41/02* (2013.01); *H02K 5/22*
(2013.01); *H02K 5/24* (2013.01)(71) Applicant: **Shenzhen Shuye Innovation
Technology Co., Ltd.**, Shenzhen (CN)(72) Inventor: **Hongxin Ye**, Zhejiang Province (CN)(21) Appl. No.: **18/295,379**(22) Filed: **Apr. 4, 2023**(30) **Foreign Application Priority Data**

Dec. 26, 2022 (CN) 202211676481.9

Publication Classification(51) **Int. Cl.***H02K 41/02* (2006.01)
H02K 5/22 (2006.01)
H02K 5/24 (2006.01)(57) **ABSTRACT**

The linear moto includes a bracket, two elastic support modules, a driving assembly, and a motion assembly suspended above the driving assembly. The driving assembly is mounted on the bracket and configured to drive the motion assembly to reciprocate in a predetermined direction. The motion assembly has two ends in the predetermined direction, two elastic support modules are configured to connect the two ends to the bracket, respectively. Each of the two elastic support modules includes a plate spring sheet, an adapter assembly, and a first connection member, the plate spring sheet has a first connection end and a second connection end, the first connection end is fixedly connected to the motion assembly, the first connection member extends through and connects to the second connection end and the adapter assembly, the plate spring sheet is fixedly connected to the bracket via the adapter assembly.

