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**Li et al.**(10) **Pub. No.: US 2022/0352800 A1**(43) **Pub. Date: Nov. 3, 2022**(54) **LINEAR VIBRATION MOTOR**(52) **U.S. Cl.**CPC ..... **H02K 33/02** (2013.01)(71) Applicant: **AAC Microtech (Changzhou) Co., Ltd.**, Changzhou City (CN)

(57)

**ABSTRACT**(72) Inventors: **Ziang Li**, Shenzhen (CN); **Lubin Mao**, Shenzhen (CN); **Zhiyong Cui**, Shenzhen (CN); **Jie Ma**, Shenzhen (CN)

The present disclosure discloses a linear motor having a housing with an accommodation space, a vibration unit and a driving unit received in the accommodation. The vibrator unit includes a weight with a receiving space and a magnet unit fixed on the weight and inside the receiving space. The driving unit includes an iron core received in the receiving space, two pole pieces respectively fixed on two opposite ends of the iron core along a vibration direction and a coil wound around the iron core. A groove is provided on the pole piece and faces the magnet unit along a first direction perpendicular with the vibration direction. The distance between the pole piece and the magnet unit increases, effectively decreasing the magnetic attraction force between the pole piece and magnet unit and avoiding the non-linear vibration of the linear vibration motor.

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