

(19) United States

(12) Patent Application Publication (10) Pub. No.: US 2024/0213835 A1 LIN et al.

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

(54) MOTOR

(71) Applicant: NIDEC CORPORATION, Kyoto (JP)

(72) Inventors: **Hsiu-Ying LIN**, Taipei City (TW); Guo-Jhih YAN, Taipei City (TW);

> Keng-Chang WU, Taipei City (TW); Kuo-Min WANG, Taipei City (TW); Sheng-Tse WU, Taipei City (TW)

(21) Appl. No.: 18/540,895

Filed: Dec. 15, 2023 (22)

(30)Foreign Application Priority Data

Dec. 21, 2022 (JP) 2022-204440

Publication Classification

(51) Int. Cl.

H02K 1/2798 (2006.01)

H02K 1/28 (2006.01)H02K 21/24 (2006.01) (52) U.S. Cl. CPC H02K 1/2798 (2022.01); H02K 1/28 (2013.01); H02K 21/24 (2013.01)

(57)ABSTRACT

A motor includes a rotor rotatable about a central axis, and a stator located on one axial side of the rotor. The rotor includes a plurality of side magnets whose magnetization direction is a circumferential direction and that are arranged in the circumferential direction, and a plurality of core pieces disposed between the side magnets in the circumferential direction. The core piece includes a core piece main body that is in close contact with side surfaces of the side magnets on a pair of side surfaces facing both sides in the circumferential direction, and an extended tooth portion located on one axial side of the core piece main body. The extended tooth portion protrudes to one axial side with respect to a surface facing the one axial side of the side magnet, and has a larger width dimension in the circumferential direction than that of the core piece main body.

