

netic field which produces the other magnetic polarity type on the facing surface and energizing means for intermittently energizing said electromagnet means from where the leading permanent magnet, based on the rotation of said rotor, passes the facing surface of the electromagnet in the direction of rotation.

2. A magnetic rotating apparatus as claimed in claim 1, wherein said rotor and electromagnet means are one of a plurality of pairs of rotors and electromagnet means, each disposed facing each, wherein each rotor is fixed to said rotating shaft.

3. A magnetic rotating apparatus as claimed in claim 1, wherein said permanent magnet means are tabular magnets.

4. A magnetic rotating apparatus as claimed in claim 1, wherein said balancers are made of non-magnetic substances.

5. A magnetic rotating apparatus as claimed in claim 1, wherein said energizing means comprises a relay with a solenoid and a contact, and a DC power source.

6. A magnetic rotating apparatus as claimed in claim 5, wherein said DC power source is electrically connected to a charger.

7. A magnetic rotating apparatus as claimed in claim 1, wherein said permanent magnet means are substituted to electromagnets and said electromagnet means is substituted to a permanent magnet means.

8. A magnetic rotating apparatus comprising:

a rotating shaft;

a first rotor which is fixed to said rotating shaft and which has disposed thereon permanent magnet means and means for balancing rotation, the permanent magnet means being disposed such that a plurality of magnetic poles of the second polarity type is arranged along an outer peripheral surface in the direction of rotation, and a plurality of magnetic poles of first polarity arranged along an inner peripheral surface, with each pair of corresponding magnetic poles of the one and the other polarities obliquely arranged with respect to a radial line;

a second rotor which rotates along with the first rotor and is fixed to said rotating shaft, having disposed thereon a plurality of permanent magnets and balancers for balancing rotation, the permanent magnets being disposed such that one magnetic polarity type is arranged along an outer peripheral surface in the direction of rotation and the other magnetic polarity type arranged along an inner peripheral surface, with each pair of corresponding magnetic poles of one and the other

polarities obliquely arranged with respect to a radial line;

a first and a second electromagnet means, which are magnetically connected and disposed facing the first and second rotors, respectively, for developing a magnetic field which faces the magnetic field produced by said first and second rotors; and

detecting means for detecting rotating position of said rotors to allow said electromagnet means to be energized.

9. A magnetic rotating apparatus as claimed in claim 8, wherein said electromagnet means is energized in synchronism with rotations of the rotor.

10. A magnet rotating apparatus as claimed in claim 8, wherein said permanent magnet means are tabular magnets and said means for balancing rotation are made of non-magnetic substances.

11. A magnetic rotating apparatus as claimed in claim 8, wherein said permanent magnet means are substituted to electromagnets and said first and second electromagnet means are substituted to permanent magnet means, respectively.

12. A magnetic rotating apparatus comprising:

a rotating shaft;

a rotor which is fixed to said rotating shaft and which has disposed thereon permanent magnet means and means for balancing rotation, the permanent magnet means being disposed such that a plurality of magnetic poles of one polarity type is arranged along an outer peripheral surface in the direction of rotation, and a plurality of magnetic poles of the other polarity type arranged along an inner peripheral surface, with each pair of corresponding magnetic poles of one and the other polarities obliquely arranged with respect to a radial line;

electromagnet means, which is disposed facing the rotor, for developing a magnetic field which faces a magnetic field of said rotor;

wherein said rotor and electromagnet means are one of a plurality of pairs of rotors and electromagnet means, each disposed facing each, wherein each rotor is fixed to said rotating shaft; and

detecting means for detecting rotating position of said rotor to allow said electromagnet means to be energized.

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