Field Inspired Electricity Generator Using Super Magnets

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Abstract - *As we are living in the era of technology and with each passing day a new innovation is coming over but we are lacking in fulfilling the need of energy to these techs, so our design can be a problem solver for this hurdle by providing energy at higher efficiency as compared to the tradition ones which are dominating the technical world .*

Because design which is prominently based on the Sir. Faraday principle Electromagnetic Induction but with a little change on traditional examples by changing the position of rotor and stator and equipping the rotor part with N95 rated Neodymium-steel super magnets and let the device run to its glory. To see the impact of permanent magnets we have to look at a typical electric motor.

As an external power source passes through the rotor field, it serves as an electromagnet that is attracted to the permanent magnet causing the motor to rotate. For continued rotation, the electromagnet allows the rotor field to reverse the polarity of its magnetic field producing repulsion. The repulsive force between the poles repels the electromagnet along its path of motion. If polarity of the rotor is not reversed, the attractive force that pulled the electromagnet toward the permanent magnet will prevent the electromagnet from escaping and cause it to return and rest opposite the permanent magnet.

Key words *– faraday charge cage, winding, voltage regulation, Darlington pair, neodymium super magnets, DC supply*

I. INTRODUCTION

Today, electricity plays a vital role in our modern-day life. As we are using many appliances using electricity, it is quite difficult to live without electricity. Traditionally wires or cables are used to carry the electrical power from one place to another. An electric motor that uses permanent magnets does not have field windings that serve as electromagnets on the stator frame. Instead, the permanent magnets on the stator frame provide the magnetic fields that interact with the rotor field to produce torque. This eliminates the need to power the stator, thereby reducing electrical energy consumption.

Electric motors, with or without the use of permanent magnets, produce rotation from a repeated sequence of attraction followed by repulsion, which requires reversing polarity. Many attempts have been made to construct a motor using only permanent magnets to generate the magnetic fields for both the stator and the rotor, but they did not succeed. Such a motor would be powered entirely by the intrinsic magnetic fields generated by permanent magnets. The discovery presented here allows permanent magnets to attract and repel in sequence, producing continued motion like an electric motor and without reversing polarity or the use of an external source of energy.
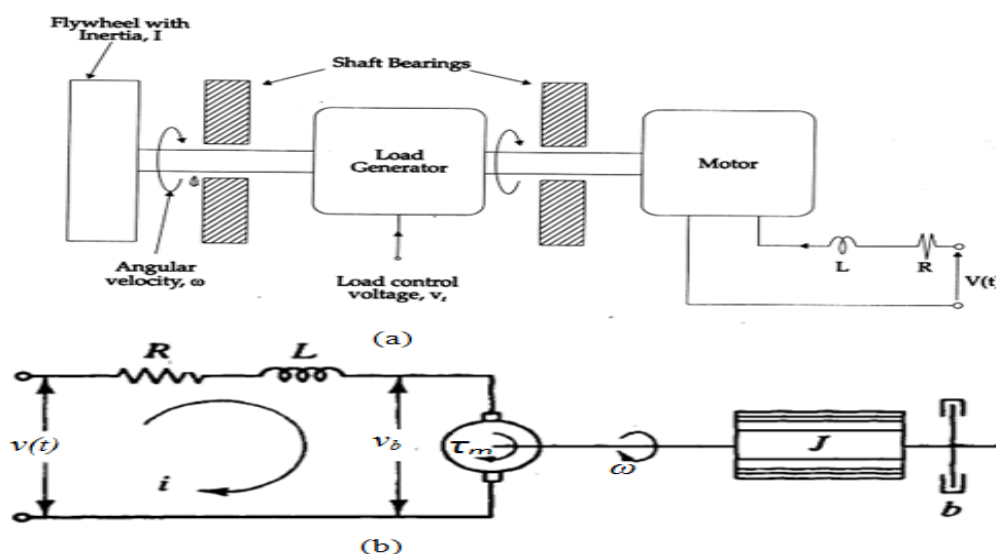
II.   Block diagram(s)
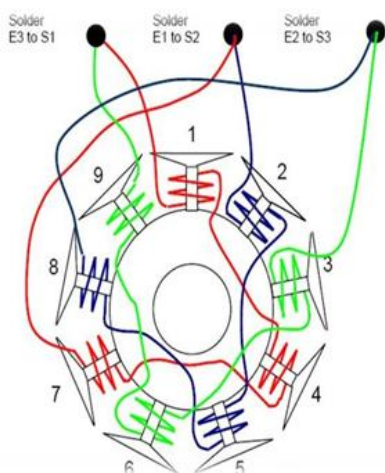
Fig (i) – Main Motor working setup

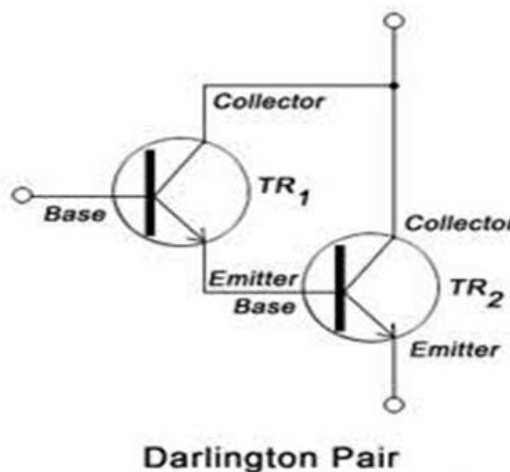Fig (ii) – Rotor section winding block diagram   Fig (iii) - Generated Current controller circuit

**2.1 Current regulation circuit** –

Faraday explained electromagnetic induction using a concept he called lines of force. create a magnetic field as the current passes through. This field can induce an electrical current in an adjacent coil of wire without actually touching it. Inductive charging uses an electromagnetic field to transfer energy between two objects. Energyis sent through a helical field line from the rotor to the stator to an electrical device, which can then use that energy to charge batteries or run the device.

Three major techniques for this" There is a great global interest in the development of these new super magnets, because of their use in future green-tech solutions."

This interest is also much stimulated by the fact that nanocomposite magnets can reduce the use of rare earth elements such as neodymium, which is in short supply and consequently prices are soaring.

The long-term goal for researchers and industry is to figure out if and how a strong permanent magnet can be made by combining nanoparticles of the right alloys using processing methods that enable mass production of powerful magnets with manageable production costs. Then we could really start to harness the power of super strong nanocomposite magnets in tomorrow's effective transport and energy solutions.

2.2 Voltage Regulator Circuit
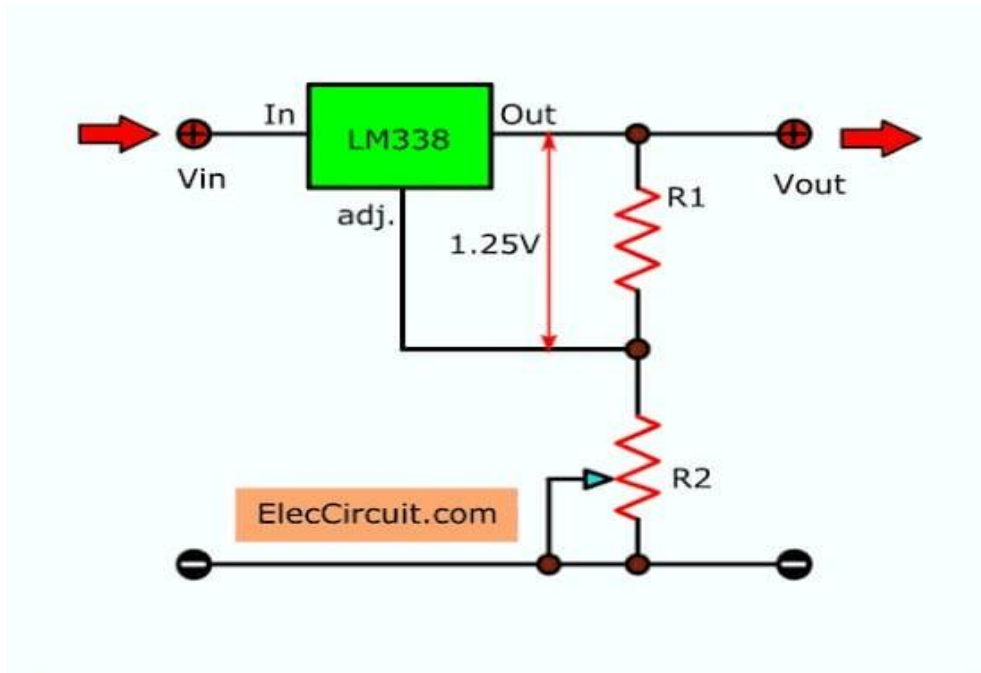
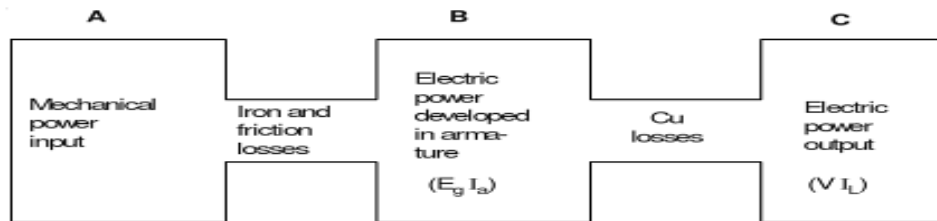**2.3   Total supply unit valuation of the generator**

Fig. 2.56

(*i*)   **Mechanical efficiency**

$$\eta_m = \frac{B}{A} = \frac{E_g I_a}{\text{Mechanical power input}}$$

(*ii*)   **Electrical efficiency**

$$\eta_e = \frac{C}{B} = \frac{V I_L}{E_g I_a}$$

(*iii*)   **Commercial** or **overall efficiency**

$$\eta_c = \frac{C}{A} = \frac{V I_L}{\text{Mechanical power input}}$$

Clearly, $\eta_c = \eta_m \times \eta_e$

Unless otherwise stated, commercial efficiency is always understood.

Now, commercial efficiency, $\eta_c = \dfrac{C}{A} = \dfrac{\text{output}}{\text{input}} = \dfrac{\text{input} - \text{losses}}{\text{input}}$

III.   System requirements

COMPONENTS	QUANTITY	DESCRIPTION
Solar Panel	1	12-17w
Transformer	1	9-0-9 step down
Battery	1	1000mah, 9V o/p
Full BridgeRectifier	2	W10 1000V 1.5A
Transistor	1	2n2222p

Motor	2	4.67v/1800rpm, 6v/3000rpm
Resistor	4	1K,5K,220,265
Copper Coil	2	10 Turns, 10 Turns centertapping
Regulator switch	1	3 pin
Diode	4	1N4007

IV. Conclusion

The method described here illustrates how permanent magnets alone can be used to produce continuous motion and provide a surplus of mechanical energy that can be used for other purposes such as driving an electric generator.

For many reasons, electromagnetic energy from permanent magnets is a highly practical, clean, and abundant source of energy. Electromagnetic force has been calculated to be 39 orders of magnitude stronger than gravitational force and its intrinsic source is abundant. The amount of energy required to create permanent magnets is insignificant compared to the amount of electromagnetic energy intrinsically available from them after they are magnetized. Iron, the most common ferromagnetic substance, is the second most abundant metal on Earth The powerful magnets containing neodymium and samarium are not required to generate a practical amount of net mechanical energy using the method described here. Other weaker permanent magnets can be used. The stability (coercivity) and strength (magnetic moment) of permanent magnets today are extremely high. The magnitude of the electromagnetic forces exerted between magnet pairs to generate mechanical energy as described here is below the coercivity value of the magnets. Therefore, the magnets will remain stable under normal operating conditions.

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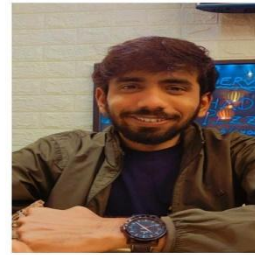
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