

Design and Development of Perendev Motor

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Abstract - This project focuses on the generation of the electrical energy using the repulsive force of the magnet. Due to high demand of the electrical energy in all fields like mechanical industries, automobile and production industries, medical industry and all other the industry requires a high amount of the electrical energy for their manufacturing, research. Day by day requirement of the electrical energy is increasing rapidly to overcome that huge demand of electrical energy we must have the various sources of electricity generation which can fulfil our energy demand. The sources of energy generation that we have today have some limitation on their extend like solar power is limited to the requirement of the sunlight if there is no sunlight the energy generation rate drastically falls down, wind turbine is dependent of the speed of wind, so this all the renewable sources have their limitation so this project is about the generation of electrical energy from the repulsive force of the neodymium magnet. All the power generation sources are dependent on some natural parameter but in case of magnet it possesses the continuous magnetism and can be used for continuous power generation.

Key Words: Repulsive force, Electrical Energy, Neodymium Magnet, Power Generation

1. INTRODUCTION

Free energy rotor uses the natural properties of the magnet to generate the perpetual motion which can be further use for our applications. The permanent magnet has the more power which can defeat the gravity for the many years if its place in the special arrangement. The permanent magnet lost its maximum 5% of the magnetism in 100 years. We are going to generate the electricity using the repulsive force of the magnet, the repulsive force will create the rotary mechanical motion and it will be transfer to the generator.

Free energy rotor by magnet is and easy and compact device to generate electricity. It works on the principle of converting the force generated by the repulsive properties of the magnet to the rotary motion to transfer to the generator. This concept of generating permanent magnetic fields from the permanent magnet became practically possible only when the Neodymium magnets is introducing in it. In this system we just require some external energy as an initial torque to start the continuous revolving of the rotor to generate the electricity. Once this initial torque is given to the rotor the construction of this rotor is such the it starts

rotating continuously by taking the motion from the repulsive force of the magnet.

2. WORKING PRICIPLE

Neodymium magnet is places on the stator and on the rotor of the system of the generator in the special manner such that when the initial torque is given to the rotor each magnet held by rotor is passes from the magnet attached to the stator in such manner that their either north or south pole rappels each other to generate the force this force is further transfer to the shaft of the rotor and then tot the generator.

3. CALCULATIONS

First of all, we have to calculate the repulsive force of the magnet. As we are going to use the Neodymium magnet of following specification:

Grade: N52

Length: 10mm

Diameter: 10mm

With the above specification we are going keep the distance between the two magnets as 10mm as per the considering the all parameter including the magnet grade, length, width, thickness and distance between two point important calculation is taken out. (Note: The K & J Magnetics calculator is used for pull force and dipole moment)

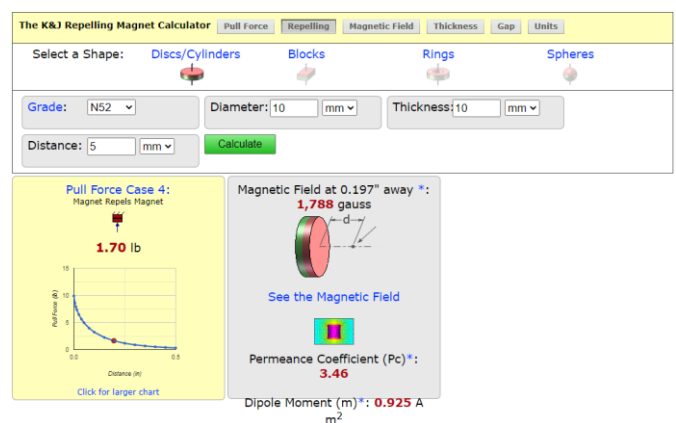


Fig-1: K & J Calculator

The above standard calculation the repulsive force exerted by magnet is 1.70 lb.

$$\text{Repulsive force} = 1.70 \text{ lb} = 4.448 \times 1.70 = 7.5616 \text{ N.}$$

There are such 25 magnet so the power available at the peripheri of the rotor is

$$\text{Repulsive force} = 7.5616 \times 25 = 189.04 \text{ N}$$

Now we have the force at the periphery of the rotor, so we can calculate the torque available at the shaft.

$$\begin{aligned} \text{Torque} &= \text{Force} \times \text{Radius} \\ &= 189.04 \times 0.49 \\ &= 92.6296 \text{ N-m.} \end{aligned}$$

Now there is no speed available at this stage to calculate the power at the shaft.

So we are the considering the rpm speed as 300 rpm

$$\begin{aligned} \text{Power} &= 2 \pi N T / 60 \\ &= 2 \pi \times 300 \times 92.6296 / 60 \\ &= 2.9099 \text{ kw} \end{aligned}$$

Now, if we consider the generator of a specific configuration to generate the electricity output will be:

Consider a effieience of the alternator or generator to convert mechanical energy into a electrical energy as 90%:

$$\text{Electrical power} = 2.9099 \times 0.7$$

$$\text{Electraical Power} = 2.03693 \text{ Kw}$$

Theoretical output of the system is **2.03696 Kw.**

4. 2D DRAWING

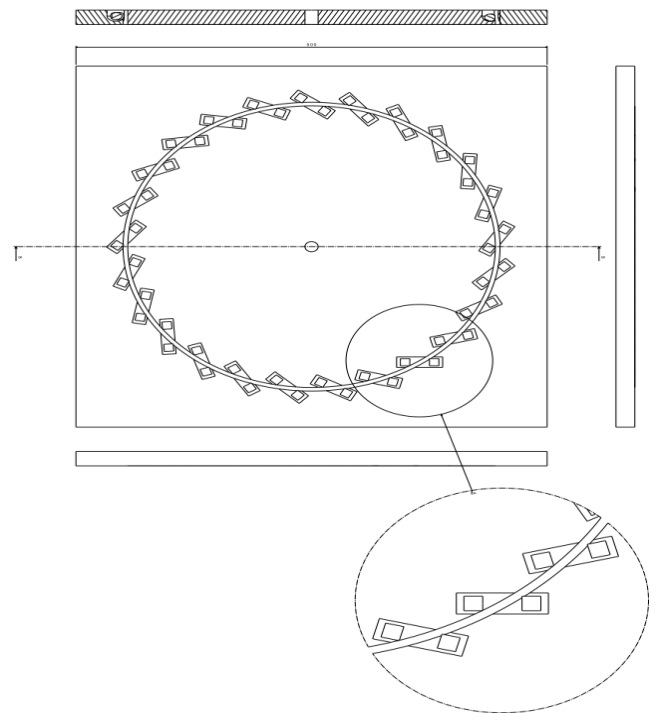


Fig-2: Simple 2D drawing showing rotor with magnet

5. CAD Model

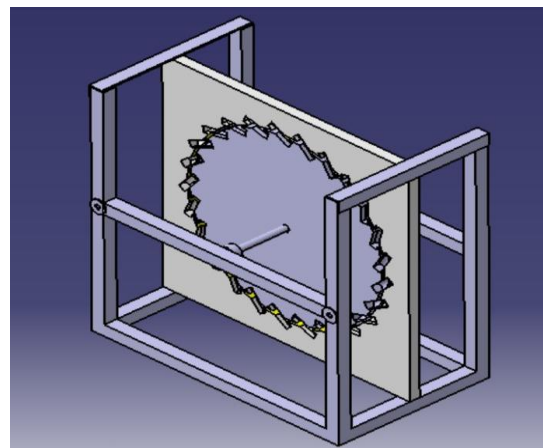


Fig 3: 3D Drawing of Experimental setup

6. RESULT

6.1 First Orientation

In this type of orientation permanent magnet on the stator and rotor is place such that the axis of the cylindrical magnets is perpendicular to the angle drawn at the 45 degree in the first quarter of the rotor and same on the stator. This orientation makes the magnets pole area on the

stator and the area of pole of magnet of the rotor to be parallel, this leads to maximum engagement of the magnetic fields of the both magnet.

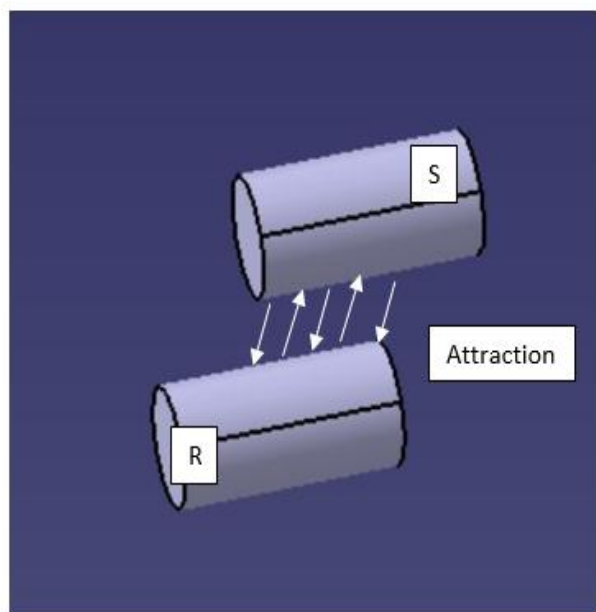
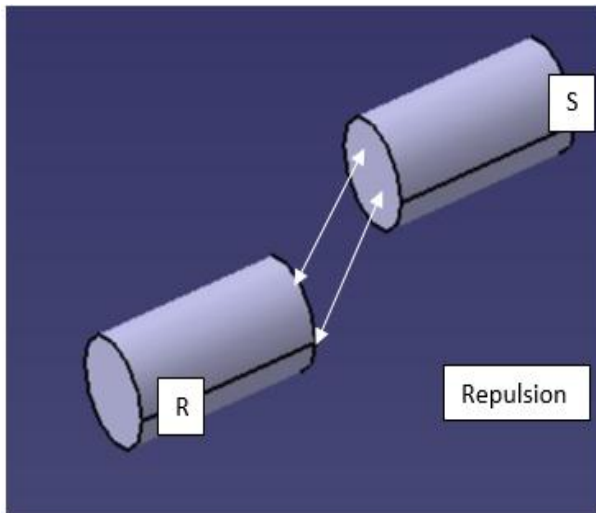


Fig-4 : 1st Orientation on Magnets Position

First diagram shows the position of the magnet on the rotor and stator at the time at which the magnet acts its repulsive force on each other. When the repulsive force acts on the magnet it leads to rotate the rotor by tangential force applied on it. But at the same time when the rotor starts rotating due to applied repulsive force the magnet positioned like shown in the second figure of above. At this time the repulsive pole of both magnet goes far and repulsive force eliminated slowly and north pole goes toward the south and south pole goes toward the north due to rotation of the rotor. It leads to create a attractive force between them which result in slowing down the rotor.

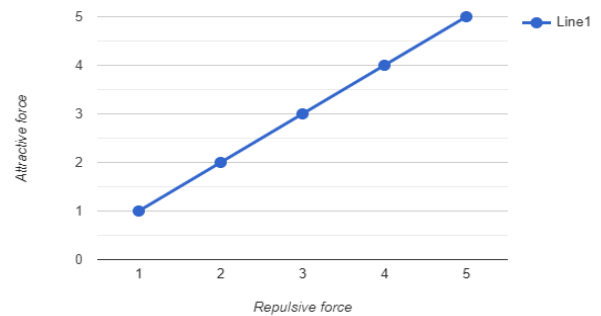


Chart 1: 1st Orientation Graph

6.2 Second Orientation

This orientation makes the magnets pole area on the stator and the area of pole of magnet of the rotor to be perpendicular, this leads to minimum engagement of the magnetic fields of the both magnet. But the problem arising in the first orientation of the attractive force is minimized.

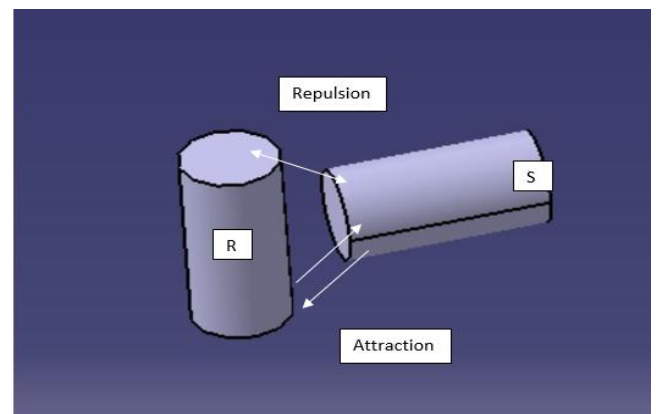


Fig 5: 2nd Orientation on Magnets Position

The above shows the position of the magnet on the rotor and the stator when they are come in contact with each other. In the above orientation magnet are place such their axis will be perpendicular to each other so the surface between the two poles of the one magnet is in front of the pole of the another magnet. Now the repulsive force extorted by the magnet is nullified by the attractive force generated by the same magnet.

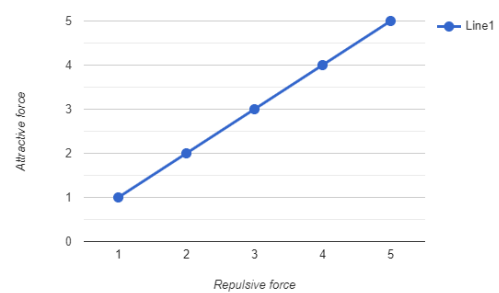


Chart 2: 2nd Orientation Graph

6.3 Third Orientation

This orientation makes the magnets pole area on the stator and the area of pole of magnet of the rotor to be perpendicular, this leads to minimum engagement of the magnetic fields of the both magnet. But the problem arising in the first orientation of the attractive force is minimized.

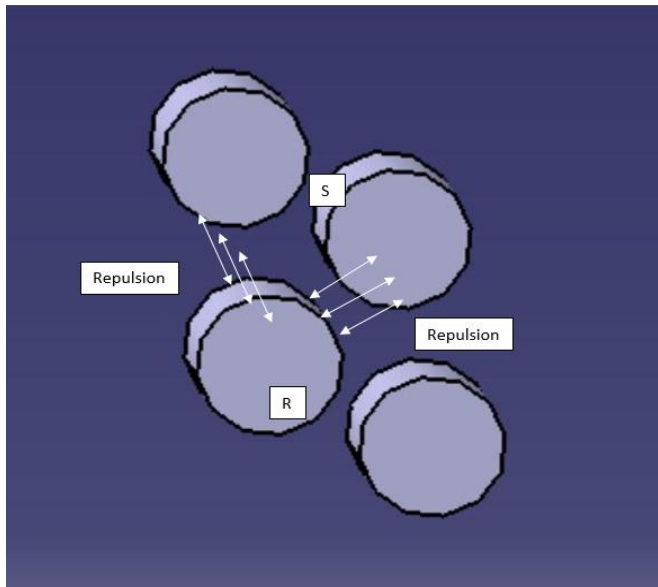


Fig 6: 3rd Orientation on Magnets Position

Now what happen see, as all the magnet are arrange in such a way that their only repulsive pole will comes in contact with each other at any instance of the rotation, when the two magnets are engaged with each other so they will repels each other the third magnet on the rotor or the stator having a repulsive side in front of them also tries to repels the rotor or the magnet but in the opposite direction of the speed of the rotation of the rotor, it leads to slow down the rotor speed.

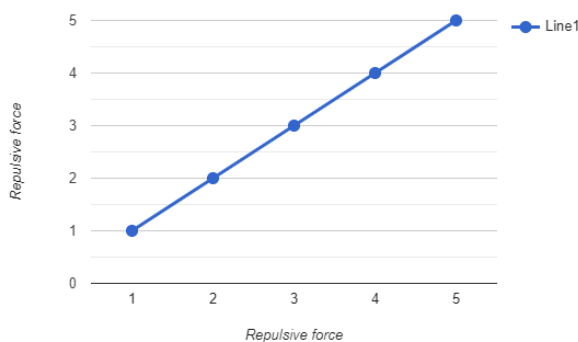


Chart 3: 3rd Orientation Graph

Now it is clearly proved that perendev motor or magnetic rotor is not possible to construct. But following are some assumption we make which if it will possible in future

technology we can build the magnetic rotor which will work on the repulsive or the attractive force of the magnet.

8. ACTUAL MODEL



Fig 7 & 8: Actual model images

7. ASSUMPTION

- The magnet used in the magnetic rotor should have a different length of north and South Pole.
- If there will be different length of the south and the North Pole we can avoid the unnecessary attractive force generated in the first and the second orientation.
- There should be a shielding material available for shielding which concentrate the magnetic field but it should not be magnetic material.
- If there will be a material in the future we can avoid the unnecessary magnetic field to interfere the

required magnetic field flow and also increase the intensity of required magnetic field at any of the pole.

8. CONCLUSION

It is not possible to construct the magnetic rotor. As the experiment done on the perendev motor or the magnetic rotor all the required forces produced by the magnets are eliminated by the opposite force created by the same magnet. The rotor is rotating and restricting itself to rotate. The forces acted by the magnet is nullified by the opposite forces generated by the magnet itself. If we can will achieve a technology to fulfil the assumption made in the above report so we can generate the power form the perendev motor or magnetic rotor and can be used for the motion application.

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10. BIOGRAPHIES



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