

# Magnetic Attractor for Planets

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**Abstract** — Magnets have its own vital importance in every field in our surrounding. In this research paper magnet as a magnetic rounder is used to light a bulb on the surface of the planet, where magnets are detected. This research paper to light a bulb uses multiple concepts such as electric flux, magnetism, dynamometer and production of electricity. The electricity is generated as the bottom surface of the magnetic rounder assembly attract the magnet on the surface. As the magnet is attracted magnetic rounder is rotated. As it rotates electromagnetic field is generated due to shaft inside the rounder. As this electromagnetic field is created the bulb will glow.

**Keywords:** Generator, Magnetic Levitation, Electro-Magnet, Dynamometer, Inductive Proximity Sensor, Capacitor, Flemings Left Hand Thumb Rule

## I. INTRODUCTION

Magnets are of wide importance today as it is used in variety of applications from generation of energy to making an appliance work in kitchen. This use of magnet for multiple purpose has brought this research paper into existence. This magnetic rounder works on assimilation of many different concepts from our books. This helps to understand them on wider scale.

**Purpose of the research:** This research is on magnetic attractor. It is used to understand and read the presence of magnet on the surface of the planet. Further this paper will explain the concepts like electric flux, magnetism, dynamometer and production of electricity. This paper also describes the static model of the product which is used to find presence of the magnet. It is mostly done with the help of different concepts mentioned above. In this part of paper along with the concepts different parts of the product is also explained. Different product of product is made of which material is also mentioned in the paper. Different step to make the magnetic attractor, which changes the energy and gives the required output. Research paper which puts forward the magnetic attractor is more holistic and can be brought into existence. The magnetic attractor which at the end is used to glow the bulb. This is used to generate electricity. It undergoes another application to produce and store the energy. It is not a complex system still it is useful and has very important applications on our planets. Coming together of various topics from physics and simple construction and

working is what makes it to seek attention. Its design of prototype is easy to understand at one glance. It still has its own drawback. It can be used to detect the magnet and when those magnets are attracted towards it, it is further dealt in more detail under coming headings. Alas! If the prototype comes into existence no doubt it will be the successor of Mission Chandrayaan.

## II. CONSTRUCTION:

Magnetic attractor is constructed on the basis of simple physics concept of dynamometer, electric energy, magnetism, electric flux and Electro motive force. Below construction explains the prototype of magnetic attractor which helps in energy construction and store charge.

- 1) The magnet of size (prescribed on the calculation of the frame i.e. electro-magnetic sheet) is considered. This magnet is placed inside the whole electro-magnetic material sheets which has circles in the four sides of the sheets so that magnetic rounder is visible from the outside system.
- 2) The magnetic rounder consists of the shaft which will rotate.
- 3) The bottom four legs of the whole electro-magnetic sheet consist of magnetic material which can attract other magnet with an intensity.
- 4) It also consists of magnetic laser on the surface of sheet which can detect the magnet by penetrating into the surface.
- 5) The magnetic attractor is controlled with the help of the remote which will help us to control the proximate distance between the surface and magnets, which attract the magnets from surface.
- 6) Rotation of shaft will help to store the charge in charge collector (capacitor), it is further explained in detail in working.
- 7) This rotation of shaft is also used to produce the electricity and glow a bulb.
- 8) The rounder is such that it rotates once the magnetic body identifies the presence of magnet on surface.
- 9) Shaft inside magnetic rounder is of length  $\frac{1}{2}$  times of the radius of rounder.
- 10) This magnetic rounder inside electro-magnetic body is suspended portion amidst the midst of electro-magnetic body.

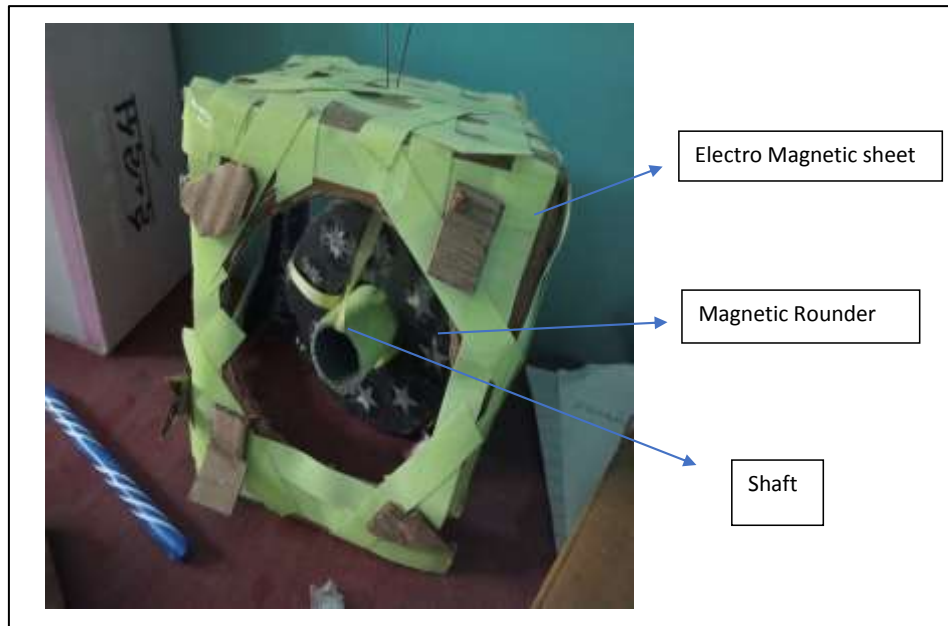


Fig. 1: Construction

### III. WORKING:

In this magnetic attractor when the magnets in the bottom legs of the electromagnetic sheet, gets activated the magnetic rounder starts the rotation and it is due to the charge which is produced in the electromagnetic sheet.

This charger leads to further production of the magnetic flux due to the change in the electro-magnetic field. This electric flux which cuts the charge and rotates the magnet further leads to rotation of shaft. This shaft rotates because of the magnetism and works on the principle of rotation of armature in the generator. As the shaft rotates it generates the electricity. This generation of electricity, this principle can be seen in the induced proximity sensors. This further can be used to lit the bulb. Flemings left hand thumb rule is used for testing the direction of current flow.

This rotation of shaft is further used to store the excess of charge in the collector. It works on principle of wind mill.

These are the principle on which the magnetic attractor works. These principles are not only the product of examples mentioned above, but it is also used in the wide application on the earth surface. This clearly states that the magnetic attractor can be used on the earth surface for its application elsewhere.



Fig. 2 & 3: Respectively Working

### IV. PARTS:

- 1) Magnetic Rounder: the magnetic rounder of size is used in the model. It is inscribed in the electromagnetic sheet covering.

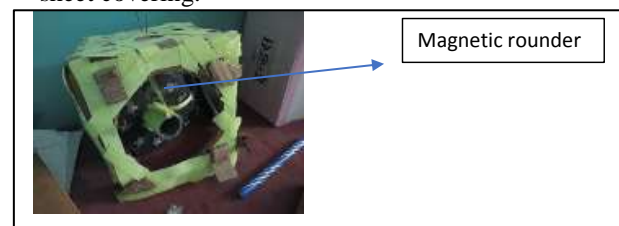


Fig. 4: Magnetic Rounder

- 2) Shaft: It is a metallic body, cylindrical in shape and has length half the radius of rounder. Shaft used will be I.S.C-50 Annealed (SAE1050) with BHN number 190.

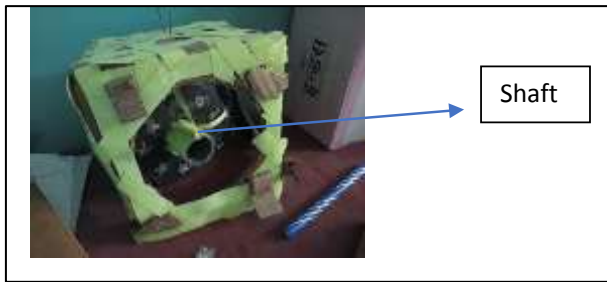


Fig. 5: Shaft

- 3) Charge collector: It is a small box which is similar to that of the box of solar collector or the charge collector in wind mill.
- 4) Two terminals which ignite due to the rotation of shaft. This shaft rotation will produce the electricity and the bulb will glow as same as in magnetic train.
- 5) Magnets: Magnet size will be determined by the vastness of the magnetic attractor.

#### V. MATERIAL:

- 1) Magnetic rounder
- 2) Material of charge collector
- 3) Shaft metal of ASME of SAE 1050 of steel
- 4) Magnets on the legs of magnetic material
- 5) Switch wire with two ends in between the layer of magnetic rounder and the shaft.
- 6) Bulb
- 7) Electro Magnetic Sheet

#### VI. CONCLUSION:

The main motto of this research paper is to ignite the bulb in space with the help of electro-magnetic force produced in the magnetic attractor. The electricity is produced because of the rotation of the shaft due to the magnetic force produced when magnets are attracted towards the bottom surface of the shaft. Here it is concluded that bulb can glow on the planet which has magnet in it which is the soul purpose of this research paper.

#### REFERENCES:

- [1] B. D. Shiwalkar, "Design Data Book", 2015
- [2] V.K. Mehta, "Principles Of Physics", 2011
- [3] Godfrey Onwulbolu, "Mechatronics Principle And Applications", 2013