



## **ELECTRICITY GENERATION BY WHEEL AND MASSES.**

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**Abstract:** - There are lots of ways to generating electricity, some are conventional and some are non-conventional ways Here we have tried to generate the electricity using wheel and masses. Using suitable arrangement of wheel and masses, kinetic energy is converted in electrical energy by connecting suitable motor and gearing system

**Key words:** Wheel, Motor, Gear System, Belt & Pulley and Magnetic Masses

### **1. INTRODUCTION**

Now a days due to the effects of pollution and global warming there is a need for generating power from renewable sources. Due to the availability of gravity all over the earth, abundant and consistent it is very suitable to generating power by using gravity.

Energy demand is increasing day by day with rapid growth in industrialization as well as modernization. But the energy resources are gradually decreasing at high extent. Within a few years the energy resources will be finished and hence there will be lack of fuel (coal, wood, water, etc.) for power generation.

The other renewable sources such as solar, wind, biomasses etc are available only for a particular duration of time during the day and night. Therefore the gravity power generation is one of the method to generate power which fulfill energy demands and requirements of present time

In recent times due to effects of pollution and global warming there is a need for generating power from renewable sources. The reason for generating power using gravity is that it is available all over the Earth, abundant and consistent too. In this project we designed a methodology wherein gravitational energy is further amplified in terms of its magnitude by using perpetual motion mechanism and hence can be successfully transformed into usable electrical energy.

### **2. Literature Review**

Sir Isaac Newton had discovered the phenomenon of gravity near 400 years ago. London researches Martin Biddeford and Jim Reeves who have spent four years for developing gravity light as an off line project.

They are using tried and tested manufacture who has the right knowledge to make gravity light. Gravity light is a revolutionary new approach to storing energy and creating illumination. It takes only three seconds to lift the weight which powers gravity light creating 30 minutes light on its descent.

In his concept more simplified mechanism is used for the generation of the electricity. The primary objective of his invention is to provide gravity power generation mechanism which can provide a continuous and stable operation to continuously convert the gravity potential energy into the kinetic energy and then to convert the kinetic energy into electrical energy so as to perform a long time, effective and stable energy output.

### **2.1.1. Energy:**

When more kinetic energy can be stored in a flywheel, the less energy needs to come from the main power source. This increases the efficiency of the mechanism's energy output. Because a flywheel can be used in such a variety of mechanisms, the amount of energy stored in the flywheel varies. There are two factors that control the amount of Energy the flywheel stores: the moment of inertia and the rotational speed of the flywheel.

### **Working principle**

One of the properties of the magnet is that two magnet have attraction at opposite poles and repulsion at same poles and we arranged the ring magnets in such way on the periphery of wheels so that on wheel's rotation causes another wheel rotate and transmitted this power through suitable power transmission arrangement to D.C motor for generation electricity.

$$P=2\pi nT/60$$
$$3 \times 60 / 2\pi \times 750 = T$$
$$T=0.382 \text{ N.m}$$

$$\text{Motor speed } N_4=750 \text{ rpm}$$

$$N_4/N_3=D_3/d_4$$
$$750/n_3=200/70$$
$$N_3=263 \text{ rpm}$$

$$N_2=N_3$$
$$N_1/N_2=d_2/D_1$$
$$N_1=70 \times 263 / 200$$
$$N_1=92 \text{ rpm}$$

$$\text{Diameter of bigger wheel} + \text{diameter of smaller wheel} / 2 + \text{gap between wheels}$$
$$= 420 + 320 / 2 + 3$$
$$= 373 \text{ mm (distance between two wheels)}$$

## **3. CONCLUSION**

When compared to other sources of energy like hydal, thermal, tidal, wind, nuclear etc. Gravity is more abundant and available everywhere on the earth. Moreover it is eco-friendly. The output of the equipment depends on specifications of the generator, disk, electric circuit, battery. So, by increasing the specifications of the components we can improve the power output. The applications of this project are

- Appliances like flash lights, radios, lanterns, torches, calculators, watches and cameras with low voltage ranging between 1.2 -9V can be powered.
- Cell phone batteries oscillating between 3.6 – 4.2V can be charged.

- Toys with batteries' voltage ranging between 1.2 – 9V can be power.
- Alkaline and Zn-C batteries that require 1.5V are charged.
- NiCd and NiMH with voltage 1.2V are charged.
- Li cells of 3V can be charged..

#### **4. FUTURE SCOPE:**

Whether a developing nation with ambitions of economic growth, or an industrialized region moving towards a low carbon economy, the challenges of future electricity production are shared. Therefore an attempt is made to generate electricity with an ecofriendly concept using Gravity.

The shown prototype is a simple one which generates little voltage. Researches are being carried out to make improvements to this idea. The major cost involved in this project is with the PMDC Generator. It can be made economical by minimizing the generator cost. Large scale production can be achieved using this knowledge.

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