

# Design of Apparent Perpetual Motion Machine [APMM] Capable of Extracting Energy From Gravitational Force

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**Abstract:-** The paper is mainly concentrations on design and fabrication of the —APMM which is a replacement of conventional motors in many applications of it. This APMM can run on its own without any traditional input for fuelling it except for the initiation where permanent magnets has to be installed at first. It is a perpetual motion system that can energize itself by taking up the free energy present in the nature itself. This project enables to motorize systems with very minimal expenditure of energy. This works on gravitational force. The weight being hinged on the links which is held on the gears on the offset center being rolling around the center gear and axle. The center axle holding one ring, and the mass are held on the circumference on this ring, and during rotation, being powered by DC motor intermittently rolling and stopping, and the rotations continuation will continuously be generating electricity to charge the battery. Here the input energy is multiplied by 2 times for the output so can be termed as free energy. Gain energy, input versus output is more. The rotations provided intermittently by the motor propels the assembly to rotate continuously. Here say motor propels for half a rotation, the assembly rotates to have at least 2 to 3 rotations independently and again by the end of those the motor propels momentarily, by this theory the power gain is affected. In this model, we are using existing available motor and available generator and not the required calculated rating which would have given us the gain through proper tabulations and in terms of wattage or amperes, but here we are showing that the power is generated even during the motor is in idle condition.

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## I. INTRODUCTION

In normal motoring mode, most electric motors operate through the interaction between an electric motor's magnetic field and winding currents to generate force within the motor. In certain applications, such as in the transportation industry with traction motors, electric motors can operate in both motoring and generating or braking modes to also produce electrical energy from mechanical energy. Found in applications as diverse as industrial fans, blowers and pumps, machine tools, household appliances, power tools, and disk drives, electric motors can be powered by direct current (DC) sources, such as from batteries, motor vehicles or rectifiers, or by alternating current (AC) sources, such as from the power grid, inverters or generators. Small motors may be found in electric watches. General-purpose motors with highly standardized dimensions and characteristics provide convenient mechanical power for industrial use. The largest of electric motors are used for ship propulsion, pipeline compression and pumped-storage applications with ratings reaching 100 megawatts. Electric motors may be classified by electric power source type, internal construction, application, type of motion output, and so

on. Devices such as magnetic solenoids and loudspeakers that convert electricity into motion but do not generate usable mechanical power are respectively referred to as actuators and transducers. Electric motors are used to produce linear force or torque (rotary). 1. Early Motors Perhaps the first electric motors were simple electrostatic devices created by the Scottish monk Andrew Gordon in the 1740s. The theoretical principle behind production of mechanical force by the interactions of an electric current and a magnetic field, Ampère's force law, was discovered later by André-Marie Ampère in 1820. The conversion of electrical energy into mechanical energy by electromagnetic means was demonstrated by the British scientist Michael Faraday in 1821. A free hanging wire was dipped into a pool of mercury, on which a permanent magnet (PM) was placed. When a current was passed through the wire, the wire rotated around the magnet, showing that the current gave rise to a close circular magnetic field around the wire.

### *Perpetual Motor*

A perpetual motor is one which runs based on the principle of perpetual motion by which the free energy present in the nature gets converted into useful work. It can continuously work once initiated by itself.

## **II.FREE ENERGY CONVERSION**

Energy transformation or energy conversion is the process of changing one form of energy to another. In physics, the term energy describes the capacity to produce certain changes within a system, without regard to limitations in transformation imposed by Entropy. Changes in total energy of systems can only be accomplished by adding or removing energy from them, as energy is a quantity which is conserved (unchanging), as stated by the first law of thermodynamics. Mass-energy equivalence, which arose from special relativity, says that changes in the energy of systems will also coincide with changes (often small in practice) in the system's mass, and the mass of a system is a measure of its energy content. Energy in its most various forms may be used in natural processes, or to provide some service to society such as heating, refrigeration, light, or performing mechanical work to operate machines. For example, an internal combustion engine converts the potential chemical energy in gasoline and oxygen. Into thermal energy which, by causing pressure and performing work on the pistons, is transformed into the mechanical energy that accelerates the vehicle (increasing its kinetic energy). A solar cell converts the radiant energy of sunlight into electrical energy that can then be used to light a bulb or power a computer.

The generic name for a device which converts energy from one form to another, is a transducer. Conversions to thermal energy (thus raising the temperature) from other forms of energy, may occur with essentially 100% efficiency (many types of friction do this). Conversion among non-thermal forms of energy may occur with high efficiency, though there is always some energy dissipated thermally due to friction and similar processes. Sometimes the efficiency is close to 100%, such as when potential energy is converted to kinetic energy as an object falls in vacuum, or when an object orbits nearer or farther from another object, in space. On the other hand, conversion of thermal energy to other forms, thus reducing the temperature of a system, has strict limitations, often keeping its efficiency much less than 100% (even when energy is not allowed to escape from the system). This is because thermal energy has already been partly spread out among many available states of a collection of microscopic particles constituting the system, which can have enormous numbers of possible combinations of momentum and position (these combinations are said to form a phase space). In such circumstances, a measure called entropy, or evening-out of energy distributions, dictates that future states of an isolated system must be of at least equalevenness in

energy distribution. In other words, there is no way to concentrate energy without spreading out energy somewhere else.

### ***Perpetual Motion***

Perpetual motion describes motion that continues indefinitely without any external source of energy. This is impossible in practice because of friction and other sources of energy loss. Furthermore, the term is often used in a stronger sense to describe a perpetual motion machine of the first kind, a "hypothetical machine which, once activated, would continue to function and produce work" indefinitely with no input of energy. There is a scientific consensus that perpetual motion is impossible, as it would violate the first or second law of thermodynamics. Cases of apparent perpetual motion can exist in nature, but such motions either are not truly perpetual or cannot be used to do work without changing the nature of the motion (as occurs in energy harvesting). For example, the motion or rotation of celestial bodies such as planets may appear perpetual, but are subjected to many forces such as solar winds, interstellar medium resistance, gravitation, thermal radiation and electromagnetic radiation.

The flow of electric current in a super conducting loop may be perpetual and could be used as an energy storage medium, but following the principle of energy conservation the source of energy output would in fact originate from the energy input with which it was previously charged. Machines which extract energy from seemingly perpetual sources such as ocean currents can move "perpetually" (for if that energy source itself endures), but they are not considered to be perpetual motion machines because they are consuming energy from an external source and are not isolated systems. Similarly, machines which comply with both laws of thermodynamics but access energy from obscure sources are sometimes referred to as perpetual motion machines, although they also do not meet the criteria for the name. Even though successful perpetual motion devices are physically impossible in terms of the current understanding of the laws of physics, the pursuit of perpetual motion remains popular.

### ***Techniques Envisioned***

Some common ideas recur repeatedly in perpetual motion machine designs. Many ideas that continue to appear today were stated as early as 1670 by John Wilkins, Bishop of Chester and an official of the Royal Society. He outlined three potential sources of power for a perpetual motion machine, "Chemical Extractions", "Magetical Virtues" and "the Natural Affection of Gravity".

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The seemingly mysterious ability of magnets to influence motion at a distance without any apparent energy source has long appealed to inventors. One of the earliest examples of a magnetic motor was proposed by Wilkins and has been widely copied since: it consists of a ramp with a magnet at the top, which pulled a metal ball up the ramp. Near the magnet was a small hole that was supposed to allow the ball to drop under the ramp and return to the bottom, where a flap allowed it to return to the top again. The device simply could not work: any magnet strong enough to pull the ball up the ramp would necessarily be too powerful to allow it to drop through the hole. Modern versions typically use a series of ramps and magnets, positioned so the ball is to be handed off from one magnet to another as it moves. The problem remains the same. Gravity also acts at a distance, without an apparent energy source. But to get energy out of a gravitational field (for instance, by dropping a heavy object, producing kinetic energy as it falls) one must put energy in (for instance, by lifting the object up), and some energy is always dissipated in the process. A typical application of gravity in a perpetual motion machine is Bhaskara's wheel in the 12th century, whose key idea is itself a recurring theme, often called the overbalanced wheel: Moving weights are attached to a wheel in such a way that they fall to a position further from the wheel's centre for one half of the wheel's rotation, and closer to the centre for the other half. Since weights further from the centre apply a greater torque, the result is (or would be, if such a device worked) that the wheel rotates forever. The moving weights may be hammers on pivoted arms, or rolling balls, or mercury in tubes; the principle is the same.

### ***Apparent Perpetual Motion Machine***

While "perpetual motion" can only exist in isolated systems, and true isolated systems don't exist, there aren't any real "perpetual motion" devices. However, there are concepts and technical drafts that propose "perpetual motion", but on closer analysis it's revealed that they "consume" some sort of natural resource or latent energy, such as the phase changes of water or other fluids or small natural temperature gradients, or simply can't sustain indefinite operation. In general, extracting large amounts of work using these devices is difficult to impossible.

### ***Energy generation by making use of antigravity forces***

Earth's gravitational force is well known to be eternal but primarily attractive. However, in specific situation, it may manifest itself into its own antigravity forces viz., the buoyant forces which could be exploited for energy generation. In designing and developing the contraption of energy generation, we are guided by the idea that if the buoyant force acting on a float and its up and down

movements in accordance with the rise and fall of water level in a tank be transmitted through a lever and crankshaft system to rotate a wheel, then it would be possible to generate some amount of mechanical energy, provided such movements of the float are maintained in sequential order by regulating the inflow of water into the tank and outflow of water from it. The salient features of the working model for extracting energy from the earth's gravitational force is shown schematically in Figure

### **III. CONSTRUCTION**

#### ***Arrangement***

##### ***Base Frame***

This is made from mild steel angle being cut from the size of 25mm x 25mm x 5mm of lengths of 490mm—2nos, 290mm—2nos, corner cutting is done and hammered for flattening and then joined to make the rectangular frame of outer size of 490mm x 290mm and then ground to remove the cutting burr and welding burr and rest verticals and other items are welded on this base frame as required.

##### ***Vertical Pillar***

These are made out of mild steel angle being cut from the size of 20mm x 20mm x 5mm thick of length 330mm---4nos, 104mm---2nos, hammered for flattening and top angle of 104mm is marked for the holes and drilled to have 6mm diameter holes at two places at the center distance of 70mm to suit the axle holder flat and then the vertical angles of 330mm are welded with this angle as per the sketch, such two set of vertical pillars are made for this project as per the sketch and then ground to remove the welding burr and are welded to the base frame as per the requirement to hold the gear assembly on the base frame.

##### ***Axle Holder Flat***

These are made from the mild steel flat of size 20mmx 4mm of length 96mm--2nos, hammered for flattening and then ground to remove the cutting burrs and then marked for the holes drilling at the distance of 70mm between centers and drilled to have the holes of diameter 6mm as per the marking at two flats as per the requirement. These flats are fixed on the vertical pillars and main axle is welded on these flats for the assembly.

##### ***Ball Bearing Housings***

These are made from mild steel round bar being cut from the diameter of 50mm of length 20mm and then turned on lathe machine to make the diameter as

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45mm and drilled to have the hole diameter as 16mm and then counter bore to make the diameter as 35mm to the depth of 10mm to suit the ball bearing outer diameter as required. This is then faced from the other side to make the total length as 15mm as required. Such four number of ball bearing housings are made for this project.

### ***Ball Bearings***

These are the standard roller type ball bearings with inner diameter as 15mm and outer diameter as 35mm and thickness as 10mm. such two number of ball bearings are used on the center axle and 6nos bearings are used in the spur gears, two bearings in each gear, such three gears., so totally 8 nos of ball bearings are used in this project.

### ***Spur Gears***

These are the standard spur gears being made of graded cast steel with outer diameter as 190mm with 65 number of teeth, such four number of gears are taken from market and then bored to suit the ball bearing of 35mm outer diameter throughout the center. Such four gears are processed and used in this project.

### ***Mass***

These are made from mild steel round bar being cut from the size of 110mm of 25mm thick ---3nos and then turned on lathe machine to make the diameter as 100mm and faced from the front side and then faced from the back side to make the total length as 22mm. these are then marked for the hole at the distance of 18mm from the center on the face for 10mm hole. Such three number of mass are made for this project.

### ***Gear Holder Frame***

These are made out of mild steel round plate turned to make the outside diameter as 75mm of thickness with center hole as 16mm with 3mm thickness, such two number round plates are made then mild steel flats of size 25x5mm are cut for the lengths of 200mm---6nos, hammered for flattening, ground to remove the cutting burr and then marked for the three division on the round plate according to the angle of 120 degree between each, welded on the round plate as per the sketch and then held on the round plate on the lathe machine, pitch circle is marked and equi-spacing is set of gear holders are made for this project.

### ***Gear Holding Axle***

These are made from C30 steel round bar being cut from the diameter of 25mm of length 90mm and then turned on lathe machine to make the diameter as 20mm and center drilled to have the hole diameter as 8mm for the entire length and then faced from front side and faced from the other side to make the total length as 85mm. such three set of axles are made for this project.

### ***Center Axle***

This is made from C30 steel round bar being cut from the size of 20mm for length 290mm and then turned on lathe machine to make the diameter as 15mm to suit the ball bearing inner diameter of 15mm for the entire length. This is welded on the verticals as required.

### ***Drive Sprocket Bush***

This is made from mild steel round bar being cut from the diameter of 40mm of length 35mm and turned on lathe machine to make the diameter as 35mm to suit the sprocket inner diameter and drilled to have the hole diameter as 10mm to suit the motor axle and then step turned to make the diameter as 20mm for the length of 15mm and faced from the other side to make the 35mm diameter for 15mm length. This bush is press fitted in the sprocket and welded.

### ***Sprockets***

This is the standard sprocket being used in the bicycle made of C30 steel with 16 number of teeth, with outside diameter as 76mm.

### ***Driven Sprocket Bush***

This is made out of mild steel round bar being cut from the diameter of 40mm cut for the length of 20mm and then turned on lathe machine to make the diameter as 35mm to suit the sprocket inner diameter and drilled and bored to make the hole diameter as 15mm to suit the axle and then faced from both the sides to make the total length as 15mm. such one number of bush is made which is press fitted to the sprocket and then welded to the sprocket as per the requirement.

### ***Battery Box***

This is made out of mild steel flat being cut from the size of 12mm x 3mm for the lengths of 340mm----1nos, 200mm----1nos and hammered for flattening and then marked for the bending to make rectangular shape out of 340mm flat for the outer size of 100mm x 70mm and then joined by arc welding and another flat is made in U shape with 50mm legs and 70mm straight and this is welded to the rectangular frame to make the box structure to hold the battery within it.

### ***Pulley***

This is made out of mild steel round bar being cut from the diameter of 80mm of 12mm thick being turned on lathe machine to make the diameter as 76mm, center drilled to have the hole diameter as 15mm to suit the axle diameter, V groove is made on the circumference of grove diameter of 72mm for the width of 4mm keeping 2mm wall at both the ends and then faced as per the sketch.

**Generator Holder**

length 190mm and hammered then marked for the holes drilling to suit the generator holding and then bent to the L shape as per the sketch and this is welded to the base verticals to hold the generator as per the requirement.

**Switch Holder**

This is made from mild steel flat being cut from the size of 25mm x 3mm of length 30mm and hammered for flattening and then marked for the hole of 5mm diameter as per the sketch and then this is welded to the verticals to be able to hold the switch on it.

**Circuit Box Holder**

This is made from mild steel flat being cut from the size of 12mm x 3mm of length 150mm, another flat of size 20mm x 3mm x 55mm length and both are hammered for flattening and then joined by arc welding and drilled to have holes to fix screws to the circuit holder box and this is welded to the vertical frame to be able to hold the circuit box holding.

**Transformer Holder**

This is made from mild flat being cut from the size of 20mm x 3mm of length 120mm, hammered for flattening and then marked for holes drilling at the center distance of 70mm with side reference of 15mm from one side and drilled to have the holes of 4mm diameter and this is welded to the base frame to be able to hold the transformer on it.

**3.2 Process of the Machine**

**3.2.1 Working Stature**

it works on gravitational force. The weight being hinged at the pitch circle of the gear, the weight being hinged at the offset being rolling around the center gear and axle. The center axle is fixed with the center gear, the outer assembly which is holding the set of three gears rolling around the center gear are held on the assembly which is rolling around the center. The axle for the rolling assembly is mounted with the free wheel sprocket and also with the pulley to drive the generator. The mass held at the side of the gear when reaching the right side horizontal position, farthest away from center and when the same gear roll around to 180 degree the mass position will be at the left side horizontal position, nearest to the center which makes the rolling towards right side always. All three gears when reaching the fixed position at the right side horizontal point, the mass position on the gear will be same which makes the gravity effect to roll further to complete the cycle.

The control circuit is provided to control the delay in energizing the motor to rotate the axle and the first ring and stop to get the continuous rotations to generate the electricity from the other side of the axle and the ring.

In this project, we are using existing motor and existing generator available in market and not making the exact rated value motor and generator. Since we are using existing available motor and generator we cannot tabulate in terms of voltage or ampere, but by seeing that the motor is stopping for few rotations during which the generator is still generating electricity continuously which is itself a gain. And in actual if we make the rated motor and rated generator we can show the comparison in terms of ampere.

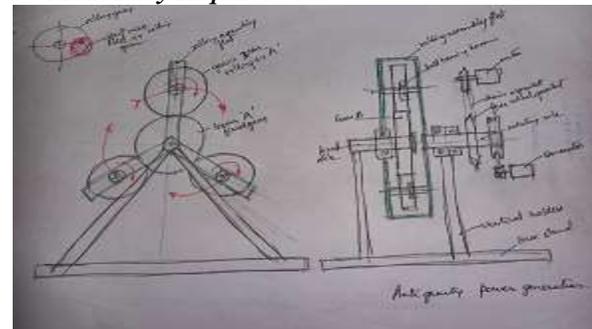
**3.3 Features**

1. Wide supply.
2. Voltage range: 2.0V to 36V.
3. single or dual supplies:  $\pm 1.0V$  to  $\pm 18V$ .
4. Very low supply current drain (0.4 mA) -independent of supply voltage.
5. Low input biasing current: 25 n.

**3.3.1 Advantages**

1. Drives with gravitational force.
2. Cost is nil compared to the average prevailing cost of other drives.
3. Expenditure on transmission of power may be negligible.
4. Can be manufactured indigenously in different sizes.
5. It is eco-friendly and pollution free.
6. Can be used for various other useful purposes.
7. Have tremendous potential to be used for various fields.
8. Will make the people of the world less dependent on other sources of energy such as coal, oil, gas, wind energy, solar energy etc in near future.
9. Will solve the energy problem of the world for all times to come.

**6. Main Body Requirements**



**Figure 1. Schematic diagram showing the important components of the device for extracting energy from gravitational force**

*Table 1*

S.No	Part Name	Specification	Qty
1	Spur gears	190mm	4
2	Gravity weights	110*25mm	4
3.	Bearings	25mm	3
4.	Dynamo	50V	1

#### IV. FINAL PICTURES OF THE DESIGNED MODEL



#### V. CONCLUSION

In conclusion, it has explored the possibility of new ways of energy generation by employing some simple but innovative techniques. In this direction, we are guided by the fact and also by our own firm belief that some of the forces of nature such as the magnetic forces, earth's gravitational forces and the electrostatic forces are eternal and inexhaustible and could be conceived as a store house of enormous amount of energy and there must be some ways to extract energy from these natural sources.

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