A review on how a Perpetual Motion Machine generates electrical power

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Abstract. Electrical energy demand is increasing in accordance with rapid growth of the human population. Since fossil fuels is the most widely used energy source, thus it is depleting very fast. Alternative energy source is urgently needed to replace the use of conventional energy sources. Perpetual Motion Machine (PMM) which can be applied to produce electricity, may be an alternative solution for the problem the world is facing today. The machine is designed to generate power from repulsive forces of permanent magnet without utilizing external sources. Some researches had conducted experiments and Neodymium magnet is most used in the project due to its strong magnetic field. The device is mainly built using a permanent magnet, a rotating wheel and a generator. This paper reviews some aspects on how A Perpetual Motion Machine (PMM) generates electrical power. The aim of the paper is to provide a summary of the topic and its opportunities in further enhancements for better results. The study found that the concept is very effective, eco-friendly and less space needed. However, a larger scale development of the machine along with proper magnet and gear arrangement is currently needed for a better performance and application.

1. Introduction

High demand of fossil fuels in accordance with rapid growth of human population has caused a major worldwide concern to find renewable and alternative energy sources. The main problem of providing electricity is to provide cheap and continuous electrical supplies. Utilizing an alternative energy is currently needed, based on its financial benefits, economical sustainability and eco-friendly, in accordance with the depletion of conventional energy resources. One of the ideas that has been researched nowadays is a scheme called Perpetual Motion Machine (PMM) [1].

Perpetual Motion Machine (PMM) has been observed by many enthusiasts. The energy becomes free only when we don’t have to pay for the power generation [2]. Energy can be created from repulsive forces of two or more permanent magnets without utilizing external resources. Similar arrangement of generating free electrical energy can also be found on many applications of electromagnets [3] and permanent magnets [1,4-6]. Even chemical substances can be used for perpetual motion machine [7]. Based on some studies about using an alternative energy for power generation, this paper focuses on reviewing on how perpetual motion machine (PMM) generate power along with its possibilities of applications and future enhancements.
1.1. Principle involved

The utilization of using Perpetual Motion Machine (PMM) for power generation has been the subject of numerous researches. Perpetual motion machine can be built in various scheme and size. As stated from a referenced journal titled Perpetual Motion Machine in 2008, a plumbing-mechanic system can be used to generate electricity [7]. The system, as shown in figure 1, consists of two pipes with different length and liquid in it (water and mercury). Buoyant force is causing the globules goes upwards and then it falls onto the wheel. The wheel starts to rotate because of the globule’s momentum hits it. After that, the globules will fall onto the right tube and another globule that reaches the bottom will rise to the surface of the left tube and so on.

A journal article titled Electrical Energy Harvesting by Using Pendulum Power Generator in 2016, uses pendulum in his scheme of perpetual motion machine [8]. When a pendulum is pulled sideways and then released, it will swing back and forth. The force and the pendulum’s mass are combining and causing it to oscillate around its equilibrium position. A generator is connected to a rotating disc which connect to a connecting rod. So, when the disc starts rotating, generator will start to produce electrical energy. Figure 2 shows the operational sequence of a pendulum power generator.

According to the referenced journal from International Journal of Innovative Research in Computer and Communication Engineering in 2017 titled Generation of Power using Perpetual Motion, the basic concept of perpetual motion means a motion that continuous indefinitely without any external energy source [9]. The first concept as shown in figure 3 is perpetual motion using gravitational energy which will be converted into kinetic energy. After that, the kinetic energy will be converted to electrical energy using power generator. The second concept is perpetual motion using magnetic generator as shown in figure 4. This concept harnesses the electromagnetic field which is available for free. Magnetic forces induce perpetual motion to turn the turbine so it will produce electricity. It consists of a yoke as stator and a circular disk as rotor. The magnets placed in the rotor and stator are facing the same pole on each other. To vary the rotor’s momentum, the yoke must be moveable to create force with variable intensity.
A study from journal article titled Performance Comparison of 4-Pole Neodymium Magnet Bedini SSG Free Energy Generator in 2014 just did a research about performance comparison of 4-Pole Neodymium Magnet Bedini SSG. From the research it is known that the replica design, as shown in figure 5, produces better performance compared to the original design [10]. Later an article titled Design and Analysis of a Radiant Charger using 5 Coils and 5 Poles of Neodymium Magnet as a Rotor Drive in 2019 designed one of a perpetual motion based energy device named radiant charger. The system is designed with a variation of numbers of coil and permanent magnets. The research results are showing that these variations affect the rpm rotation, voltage and current generated [11].

Another study from International Research Journal of Engineering and Technology in 2017 titled Free Energy Generator, is creating a prototype of perpetual motion based energy generator using V-guard rotor [12]. Permanent neodymium magnets are used in the system to generate the required force to rotate the V-guard rotor. As the V-guard rotor which is connected to a dynamo starts rotating, the dynamo will produce electrical energy. Then, this energy will be stored in the battery and used for commercial purposes. Figure 6 shows the block diagram of the designed generator.

A research titled Free Energy Generation using Neodymium Magnets: An Off-Grid Sustainable Energy Solution for Sub-Saharan Africa, developed a Neodymium Magnetically Induced Free Energy Generator (NMIFEG) in 2017 [4]. The system works on the principle of magnetic field induction. The generated energy will be stored in the battery bank through a charge controller. Then, the energy from battery will flow to the inverter and it change the DC input voltage into AC output voltage.

1.2. History of perpetual motion machine
Perpetual motion devices were first claimed exist since pre-1800s year which in mid-age Renaissance. Moreover, Wilkins was the first inventor who used a magnet in the device. Furthermore, Muammer Yildiz has developed a permanent magnet motor which is not using external power sources [13]. Perpetual motion machine which uses gravitational energy claimed exist in the 8th century in German. The device rotates for a long time, but friction inevitably stopped it. Further design called Bhaskara’s wheel is done by Indian mathematician-astronomer Bhaskara II. In the 13th century, French scientist named Villard de Honnecourt studied about overbalanced wheel and then studied by Taccola and Leonardo da Vinci in the 15th century [9].

Another scheme of perpetual motion based energy device is using a flywheel [5]. The first application of flywheel is the potter’s wheel. Flywheel is a simple mechanical energy storing device where kinetic energy is stored in a spinning mass. Basic principle of this scheme is to match the decreasing speed of the flywheel during discharge and the increasing speed during charging with a fixed frequency electrical system. John Bedini is known as one of the true living legends in the field of perpetual motion based energy concept. He published his first book titled “Bedini's Free Energy Generator” on 1984 [14]. Bedini’s energy generator is a combination of an electric motor, a flywheel, a rotating switch, a battery and a special electric generator which referred as energizer. His first energizer consisted of a wheel with series permanent magnets on it. The wheel is made to rotate in front of numbers of wire coil. When the wheel starts to rotate, electricity can be generated from the coils and it can be stored in a battery. Bedini
realized that the wheel could be made to turn itself if an electricity was put back into the coils, so he started to develop the right switching method in the system. Later, Bedini coached a girl named Shawnee Baughman to help her school project. He had developed a new simpler system which consist of an energizer, a battery and a special timing circuit. The energizer consisted of a wheel with permanent magnets mounted on it. He also put some wire coils around it. Bedini called this North Pole Motor. Different design is made by John Bedini for Shawnee Baughman’s Project. It was a development from the North Pole Motor design called Bedini Simplified School Girl (Bedini SSG). The rotor wheel consisted of four permanent magnets on it and there was extra generator coil connected to an LED.

1.3. The development of perpetual motion machine

Perpetual motion based energy can be referred as an alternative energy source. The goals to develop this energy option is to produce a machine which will run effectively at a lower cost and zero damage to the environment. Perpetual motion based energy can be obtained from many sources such as biochemistry, thermodynamics, magnetic field, electrochemistry and biology [15]. One of the perpetual motion machine schemes as shown in Figure 7 is using a pendulum. It consists of a pendulum attached on a horizontal body frame [8]. It has two main frames where two magnets are attached. Both side of pendulum is attached by magnet. A rod is connected to a rotating disc which is connected to a generator through the shaft. Once the pendulum is pulled sideways and then released, the repulsive force from permanent magnets and the pendulum’s mass are combining and causing it to oscillate around its equilibrium position. This motion will be converted into rotation and electrical energy will be generated.

![Figure 7. Pendulum power generator.](image)

A mechanism of gravity power generation as shown in figure 8 (a) is converting gravitational potential energy into kinetic energy. A positive torques is created by outward spreading single directional swing arms while reducing the negative torques by folding action of the single directional swing arms. Furthermore, the kinetic energy will be converted into electrical energy. Besides, the magnetic generator mechanism as shown in figure 8 (b) is consisting of magnets arranged on a wheel and each of them is facing the same pole of magnet on the stator. Due to a repulsive force, the magnets will rotate and cause a continuous motion of the wheel which is connected to a gear and a generator [9].

![Figure 8. The construction of (a) Gravity generator and (b) Magnetic generator.](image)

A design of Zero Point Energy Conversion (ZPEC) is done by using Magneto Gravity Link (MGL) as the main element as shown in figure 9 [16]. A magnetic field is created when an air flow energy enters the MGL. An oscillatory motion is converted into rotational energy by MGL when the battery starts the
The alternator starts rotating because it is connected to the MGL through the shaft and it will generate electricity. Another scheme of perpetual motion based energy generator is using V-guard magnetic motor [12]. Figure 10 shows the model of the designed generator. The Neodymium magnets is engraved into V-shaped rotor. As the rotor starts to rotate, a switch will cut the magnetic field and send a signal to a relay. Furthermore, relay will send another signal to electromagnet relay which is connected to the stator to pull it up and down after 360° of rotation for maintaining the continuous motion of the rotor. Also, the rotor is connected to dynamo to generate power and an LED to indicate the flowing of current.

Figure 9. MGL arrangement. Figure 10. Model of the generator.

A perpetual motion based energy generator comprises of an arrangement of Neodymium magnets placed on a plate with their same poles facing each other. So that a repulsive force is created and causing the shaft of DC motor to start rotating. Hereafter, induced energy is supplied to the DC load and the inverter system. In the project, Single-Pole Double-Throw (SPDT) relay is used. When electromagnetic force produced in the coil, the switch will change its position. A charge controller is also used to regulate the rate at which electric current is supplied to or drawn from the DC batteries [4]. Neodymium magnets is often used in the project because it is the most powerful magnet of all. Based on its material structure, magnet is classified into four types. The types are Samarium Cobalt, Alnico, Neodymium Iron Boron and Ceramic [17]. In another study, a brushless motor is used as generator [3]. Another key is a joule thief or a self-oscillating voltage booster and a brushless DC motor is modified as generator. The system is utilizing wind energy, so as the wind passes through the fan’s blades, it rotates the shaft in between the windings and cuts the flux on the windings and small amount of voltage is generated in the conductor.

2. Research methodology

Most of the referenced journal about the perpetual machine is using Neodymium permanent magnets on the design. It is claimed as the most powerful magnet on earth. From the explanation on the previous points, it is shown that some of the flywheel machines need human power assistance to rotate the perpetual motion machine at the first time. Even DC motor is used in a flywheel system as a pick-up motor to create a motion. This may be a good opportunity to develop a prime mover system to rotate the machine at the first time, so it will be working purely without any human power assistance. The development may be including the design of construction and material selection which will be used. Components arrangement of the prime mover might be done using trial and error method until the system is working. When the system is finally working, it will be evaluated for further enhancement.

3. Discussion

Few experimental results show that the output voltage increases as the speed of the wheel’s rotation increases or vice versa. A voltage booster is also used in some designs to increase the output voltage thus it can be more valuable for larger loads. A study claimed their perpetual motion based energy generator able to run at 100 rpm and produce an output of 12V, 0.8A. Another study produces an output of 5V, 200mA, 1W. The electrical energy is further stored in batteries. The most common permanent magnet used in the project is Neodymium magnet due to its high magnetic fields. The perpetual motion machine devices can be utilized in many applications such as connecting it to a two-wheeler (bike), four-
wheeler (car), fitted it at the end of chimneys, for charging small batteries, for small wattage bulbs, etc. Moreover, perpetual motion based energy devices are able to work in all weather conditions, easy to construct and less space needed for installation thus it is suitable for houses or rural electrification.

4. Future work
This idea provides a low input energy which is available for free. A greater output can be achieved using a large scale of the project and proper magnet along with gear arrangement thus it will be more effective power generation. A development of prime mover system is also needed in perpetual motion machine so it will be working without any human power assistance.

5. Conclusion
The world’s environmental pollution of fossil fuel can no longer be tolerated. The concept of perpetual motion machine is a better way to fulfill the world’s electricity needs. It can be built in various schemes such as flywheel, pendulum, etc. Perpetual motion based energy generator has proven to be cheap and not depending on any environmental conditions, although proper calculation and arrangement of the component must be done carefully and accurately to get a better performance of the project. There are still greater opportunities of the machine to be enhanced further for more efficiency and better results.

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