# Study on the design of an ideal rotating system consisting of gears and weights for torque motor

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*Abstract*—This paper presents an exceptionally permanent rotation system, consisting of gears and weights for torque motor. Enhanced efficiency: The permanent rotation system may improve the efficiency of the torque motor by optimizing power transmission and minimizing energy losses.

Improved performance: The system could lead to enhanced torque output, smoother operation, and increased accuracy in applications where precise rotational control is crucial.

Reduced maintenance: The emphasis on permanence suggests a system that requires minimal maintenance, potentially leading to lower operating costs and increased uptime. To delve deeper, the paper would likely cover:

Detailed design and operation: A thorough explanation of the system's components, their interactions, and the principles behind its functioning.

Theoretical analysis: Mathematical models and simulations to predict the system's behavior and performance under different conditions.

Experimental results: Data and analysis from tests conducted on a prototype or a realworld implementation of the system, validating its performance and demonstrating its advantages.

Applications: Potential applications of the system in various fields, such as robotics, industrial automation, and aerospace.

#### 1. Introdution

This scientific work focuses on a mechanism that enables continuous rotation due to external loads applied to mounted wheels, creating an imbalance. The three gears are mounted on a rotatable beam with a 1: 2 ratio, the central wheel (green) rotates in the same direction, but at a 1:1 ratio.

$$M = G \cdot L = 10 \cdot 200 = 2000 [Kg \cdot mm] = 20 [N \cdot m]$$
(1)

The torque is calculated by multiplying the weight with the arm length of 2000 mm, according to the established formulas.

 $M = 2 \cdot G \cdot L = 2 \cdot 10 \cdot 200 = 2 \cdot 2000 [\text{Kg} \cdot \text{mm}] = 40 [\text{N} \cdot \text{m}]$ (2)

It is possible to design large mechanisms capable of generating a high amount of torque, enough to drive a power generator.

Countless online visualizations of gravitational and magnetic motors exist, with the gravitational ones being the most visually compelling.

It is indeed interesting and promising that gravitational and magnetic motors show potential for developing innovative technologies.

But we still have a too rotary gear.

It is a gravitational device with gears that has no stationary moments, making it an effective gravitational engine capable of producing various types of work.



Figure. 1. The design option when the outside of a wheel is given the torque of the dimensions of the figures.

Relatively few mechanisms can generate electricity, but you can easily find examples on the Internet. We do not have specific torque points; they do not exist in this mechanism.

I am very grateful to those who formed a team to build a gravitational engine and shared it online. Their enthusiasm made it accessible to all who are passionate about innovative technologies.

Many engineers should explore gravitational and magnetic motors as they demonstrate the technical potential for factors like torque, development mechanisms, and near-constant torque. This could lead to improved engine variants.

The mechanisms involved are quite large, capable of powering a generator for a fixed power plant. The relatively simple design, with few gears, originated from an online concept of gravity engines. However, the original authors didn't provide detailed explanations, likely to prevent others from developing the idea.

Eventually, current fuel-based systems that pollute the atmosphere will be replaced by various gravitational or magnetic motors.

Major universities should also investigate gravitational and magnetic motors to explore their technical capabilities, such as torque, development mechanisms, and near-constant torque for improved engine designs.



Figure. 2. Overview, the entire

In the rotary motion mechanism, the central wheel's weights maintain a fixed position, moving at a 1:1 ratio. The beams with three gears rotate in the same direction as the central green wheel but lag behind, also at a 1:1 ratio.

Figureure 3 illustrates the gear wheels and the continuous rotary circulating mechanism of gravity. The rotating beam moves at a 1:2 ratio, creating a positive moment.



Figure. 3. Overview, the section rotating upright



Figure. 4. Overview, the entire rotating machine horizontal

We are addressing manufacturers of stationary power plants that produce electricity for individual homes or multiple households.

If we follow this path, we can clear the atmosphere of pollutants harmful to humans, animals, and plants. It's time for engineers and inventors to combat environmental pollution and create a clean air atmosphere with reduced carbon dioxide, carbon monoxide, and other harmful elements.

### 2. Continuous Energy Generation Using a Gravity-Driven Gear Mechanism

#### A. Review Stage

When the beam carrying the three-gear mechanism is in a horizontal position, it experiences maximum torque.



Figure. 5. Overview, the entire rotating machine at an angle

Gravity-generated torque from this mechanism can be harnessed to produce free energy for an extended period. While gravity itself is a limitless resource, the system's rotating axes will eventually require bearing replacements.

A continuously operating gear mechanism can harness gravitational potential energy for continuous electricity generation, significantly reducing costs.

Another impressive gravitational mechanism, though with fluctuating torque, involves multiple rotors on a single shaft. Careful rotor design can achieve near-constant torque.

I anticipate a revolution, particularly for farmers who have experienced warming temperatures and the threat of desertification.

At a 45-degree angle, torque is maintained, and weights remain in position, rotating in the same direction. Such a continuously operating mechanism leverages weight imbalances within the system.



Figure. 6. Overview, the entire rotating machine (rear view)

#### 2. Concluzion

Figureure 6 illustrates the gear conFigureuration of the gravity-powered mechanism that generates continuous motion and torque.

We can envision large-scale rotating machines capable of producing significant torque and generating substantial electricity. A complex mechanism could potentially be applied to various fields, including mining, quarrying, and automotive industries.

After tilting the mechanism 45 degrees, the weights remain in position and continue rotating in the same direction. Following a 180-degree rotation, the beam carrying the three gears reaches its maximum torque position.

Gears and bearings should be designed to minimize friction while ensuring durability.

Numerous gravitational engine designs have been shared on YouTube. We must carefully study these variants to identify the most promising ones. Engineers, especially mechanical engineers, should explore these designs, analyze their construction, and evaluate their performance.

The central green wheel rotates at a 1:1 ratio.

Our university aims to construct such a gear mechanism to demonstrate its functionality.

At a 45-degree angle, torque is maintained, and weights continue rotating in the same direction. This mechanism can operate continuously.



Figure. 7. Overview, the entire rotating machine horizontal

The green wheel rotates at a 1:1 ratio with the two adjacent wheels.

We won't encounter torque dead points in this design.

Gravitational engines can be more complex or simpler, depending on the specific design.

The relative simplicity of this mechanism, combined with its significant gravitational torque, makes it accessible to enthusiasts.

Anyone who builds such a gear mechanism can experience the satisfaction of applying it to electricity generation.

While it's not overly complex to build a smaller version, larger machines would produce more energy.

This gear mechanism demonstrates reliable continuous rotation, making it suitable for private generators, especially in remote areas or hilly regions lacking access to traditional electricity grids.

## 3. Bibliography

- [1] Nicodim Muresan and Fazecaş Marius Method of representation of the functions by MATLAB Program in the field of machine- tools appointment. Invention OSIM 2014.
- [2] M. B. Fazecaş, "Theoretical contributions on the strength and life of the coupling" (In Romanian: "Contribuții teoretice privind rezistența și durata de viață a cuplajului"), PhD Thesis, Universitatea Politehnica Timișoara, 2007..
- [3] F. Wankel Rotary Piston Machines, Iliffe Books, London 1963.
- [4] K. Kamagiuki Rotary mechanismes, Tokyo University, 1990.
- [5] B. Tătaru., M Fazecas, Rezistența Materialelor, Editura Universității din Oradea, ISBN 973-759-000-7.
- [6] Mureşan, N., Fazecaş, Marius, Statica. Cinematica. Dinamica, Editura Universității din Oradea, ISBN 978-606-10-14444-6.
- [7] You tube mechanisme gravity On line.