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Rotation of Wheel to Provide Power by applying Natural Forces

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Abstract

We can get power by rotating a shaft of the generator. To rotate a shaft, there need forces. I have used gravitational force and buoyant force of water. These two forces are opposite in direction, downward and upward respectively. The device is such that the vacuum masses of the wheel can play up and down and can replace water /fluid twice of their own masses. The masses are arranged serially around the circumference of a wheel which is kept half of it's height under water vertically and rest on air. The masses can play up and down along the arms of the wheel. Gravitational force and buoyant force make a torque to deflect the wheel. These two forces act angularly at the half of the wheel by means of string. There needs a outside force (mother force) to over take the state of rest /critical moment of the Rotation. It is calculated that the combination of such three forces can provide us 0.2mg force for each mass of the wheel. So, increasing the number of masses, we can get more force. Fetching of Natural forces like gravitational and buoyant force is the main theme of this invention

Key words: Gravitational force, buoyant force. torque, mother force.

Introduction

It is our duty to make our planet suitable for ourselves as we love it dearly. If the environment of this planet be polluted then what can be done? There are thousand of problems in this planet. Power problem is one of such which we are facing now a days. Usually, we produce electricity by burning coal, oil, wood, gas like fuel which pollute our environment and we observe it's effect in nature.

A day may come when we will not get pure water to drink and air to take breath. Development of our modern life fully depend on electricity. It is better, if we can utilize more electricity using less quantity of fuel.

Once the ice cap of our mountains will be dried and rivers will not get sufficient water to produce hydro-electricity. The main object of this invention is to fetch power utilizing less quantity of fuel or hydro energy.

Problems make us to think seriously about the happenings in environment of the earth in recent times. We feel insecure, though the intellectuals are doing their best to face the problems. In this paper, I have discussed about buoyant force¹, work, energy and power^{2,3}. Newton's laws of gravitation^{4,5} give support to go on calculations. Maity J.⁶ gave me the idea about natural forces. If the theme insists others to go on more studies about the present condition of the environment, then it will give me pleasure.

Methodology

The wheel which will rotate to make run the generator is consisting of arm, movable vacuum masses, pulley, string etc. The masses can replace water twice of it's own mass and placed around the circumference of the wheel. In air the masses come down due to gravitation of earth and go up due to buoyancy of water. The wheel is immersed in water keeping half of it's vertical height under water.

All The masses create forces according to their respective positions in air and water and convey forces to middle of the wheel by means of shaft or pulley making 30° with the respective arms.



To overtake the critical stage, a certain force have to use from outside for the continuation of rotation of wheel

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The forces of masses on air and water will create a torque that will deflect the wheel for a while and come to equilibrium stage/critical stage. The forces are directed in clockwise as in figure 1.

Results and Discussion

Suppose 1 kg. of a mass whose shape is such that it can replace 2 kg. of water. If we try to keep it under water, then it will float above water keeping half of it's volume under water due to buoyancy.

More 1 kg mass is needed to immerse fully under water.

Gravitational force and force due to buoyancy which act downward and upward respectively are same on similar masses but opposite in direction which can make a torque and if we can apply the forces on either side of a shaft laying on reference line, then the shaft will deflect for a while. This is the main theme of this invention. For the continuation of deflection, certain forces have to apply to overtake the critical stage of motion.

If we let the forces to act angularly by means of a mechanism, then the torque will appear. This invention is discussed details in the "Book on Natural Forces "written by me, published by LAP, Germany. The thesis was presented in science congress 2012.

We shall go through calculation of efficiency as well as current cost of fabrication of such device.

About mass: Masses are made such that it can replace water twice of it's own mass (Vacuum).

From the invented process, it is calculated that, we can get 0. 2mg. force for each mass, if the wheel be forced to rotate with a velocity of square root of radius of wheel $(v^2=r)$.

If mass 'm' is 1kg, radius 'r' is 1 m, centrifugal force of the movable mass will be mv^2/r . To keep centrifugal force 1 N, velocity have to maintain 1 m/second.

Let us make a wheel, having 12 vacuum masses of 1kg. Each can play up and down smoothly along the arms. The masses are connected to middle of the another arms by loops/string conveyed by pulley serially.

A, mass create force mg $\sin 30^{\circ}=1 \times 9.8 \times 0.5$ N = 4.9 N B, mg $\sin 60^{\circ}=1 \times 9.8 \times 0.866$ N = 8.48 N C, mg $\sin 90^{\circ}=1 \times 9.8 \times 1$ N = 9.8 N D, mg $\sin 90^{\circ}=1 \times 9.8 \times 0.866$ N = 8.48 N E, mg $\sin 30^{\circ}=1 \times 9.8 \times 0.5$ N = 4.9 N {Force due to gravitation on air, here m=1kg.} Total 36.56N On the contrary in water we will get the same force due to buoyancy. ___ISSN 2320–4796 Res. J. Physical Sci.



Figure-2 A,B,C,D,E and a,b,c,d,e are the masses can play along the arms AO,BO,CO and so on

Two masses x, y are on the line of reference applying no force. Deducting centrifugal force $mv^2/r=1$ N. [m=1kg. r=1 m. v=1 m/second]

We get $36.57N \times 2-12N = 61.14N$, which act at the middle of the wheel through the loops.

In respect to end of the wheel, the force will be 61.14N/2=30.57 N.

The forces are acting at middle of wheel making 30° with the respective arms. so, the vertical force will be, $30.57N \times \cos 30^{\circ}$ =26.47N. Resultant force is 26.47 N×0.866 =22.92 N.The system of forces act every moment after critical stage (state of rest) is over. To overtake the state of rest, we are to apply mother force from outside. It is, mgsin 30° =1×9.8×0.5 =4.9 N.

So, we can get 22.92N/4.9N = 4.678 times of applied force.

In terms of mg (force) $22.92N/1 \times 9.8 = 2.33$ mg. Hence average force for each mass obtained from this invention is 2.33 mg/12 = 0.194 = .2 mg (approx).

Wheel having radius 4m. consisting 24 masses. As bellow.

Force exerted by masses 1,2,3,4,5,6,7,8,9,10,11 at the middle of the wheel are as follows. Considering masses are 'm'.mg. sin $15^\circ = 0.25$ mg., mg. sin $30^\circ = 0.5$ mg., mg. sin $45^\circ = 0.707$ mg., mg sin $60^\circ = 0.866$ mg., mg. sin $75^\circ = 0.96$ mg., Total: 3.283 mg.

7,8,9,10,11 gives 3.283mg. force and. 6^{th} one gives us 1mg (sin 90°=1).

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So, we get 7.566mg. force above water. All the forces act making 30° with the arm of the wheel.

So, 7.566mg × 0.866= 6.552mg act at the middle of the circle. X and Y exert no force as there on L.R.

Resultant force of the system makes 60° with L.R.

Hence, vertically the force will be 6.552mg× 0.866= 5.67mg acting at the middle of the wheel above water.

In respect to the end of the wheel = 5.67 mg/2= 2.83 mg.

On the contrary, in water we will get 2.83mg force due to buoyancy of water.

Total force $2.83 \times 2 = 5.66$ mg. Average force for each mass is 5.66 mg/24= 0.23 mg i,e 0.2 mg approx.



To break the state of rest Figure-4

We shall discuss about the shape of the mass. We have to choose a shape of vacuum mass which will run smoothly splitting water as there will be nearly half masses below water in every moment (if there be even number of masses).

According to me the size and the shape of the vacuum mass will be as shown in figure.

Two vertical cones are attached face to face to make a discus (sports instrument) like vacuum material that can displace twice of it's own mass. Reverse of two cones can take the shape of a tabor/tambour. These masses will be arranged serially one after another around the circumference of the wheel such that, the end of a discus can be placed in the group of tabor. (reverse of two tabor).



Discus like vacuum r

Figure-5 Two pieces of vertical cone and reverse will be shaped as tabor

To fabricate a medium size wheel, whose radius is 9 m, having 54 masses, each of 26 kg mass (discus type) whose vertical height of each cone is 0.1 m, and radius is 0.5m. Volume of the discus is $1/3 \times 22/7 \times (0.5)^2 \times 0.1 \times 2 = 0.052$ m³, which can replace $0.052 \times 1000 = 52$ kg. of water. So, the mass of the discus will be 52/2 = 26 kg. To break the state of rest of the wheel there need the energy to interchange one mass to another is, (mgh)=26kg×9.8m/sec²×1.04m.=264.99 joule [360°÷54 = 6.66°, sin6.66°=0.1156= h/9, or, h=1.04m. as v² = r=9 m. or, v = 3m]

Within 3m, there are $3 \div 1.047$ (56.57/54)=2.86 masses. So, there need 2.86×264.99 =757.87 joule work to be done in a second, or, 757.87 watt power to be supplied from outside for

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the rotation of wheel @3m /sec. Due o buoyancy and gravitation, we will get $54 \times 0.2 = 10.8$ of applied force (according to the invention) Hence, we can get back $757.87 \times 10.8 = 8.185$ watt power.

To fabricate such a device, we need as follows, 26 kg mass+9 kg other materials =35 kg

35×54=1890 kg, costs Rs/- 1890 ×100/- =Rs/- 189000/-(@ Rs/-100/- per kg including making charges)

Generator cost Rs/-32,740/- (@ Rs/- 4000 per k,watt.)

Total =Rs/- 221740/- to produce 8.185 k, watt electricity.

For 1 M. W power, we need Rs/- 2.7091 Cr. (approx)



Note. The mass can rotate on it's axis and can play up and down due to buoyancy and gravitation. Adopting this technology, we can get more pollution free power using less quantity of fuel providing enough job.

We can reduce the making cost using cheap materials (concrete/sand) inside discus as mass. It is possible in large project. Using more mass we can get more power.

Conclusion

This invention was presented in State Science Congress in 2012, International Science congress in Viridian, Matura in 2012 and National Science Congress in Kolkata in 2013. i. we can get few times of applied mother force which will provide power. We have to use less quantity of fuel in thermal power stations. ii. In dam, we can get hydro-electricity with less increasing the height of water level as we need a certain quantity of mother energy for the rotation of the wheel. iii. This energy is pollution free except the mother energy. iv. Large or mini-project may be established almost everywhere where water is available and these will provide electricity in low cost and enough job. v. People will use cheap electricity instead of burning wood for their daily need. Deforestation will be partly stopped.

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