

Power Generation Through Speed

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Abstract: Power is now a crucial component of human existence. We must now rely on non-conventional sources of power generation due to the daily growth in population and diminishing availability of conventional sources.

The power generated can be used for a variety of things, including traffic lights and lamps. By connecting these power humps in series, the electrical output may be increased. The generated power can then be amplified and stored using various electric devices. The cost of hump's upkeep is nearly nonexistent.

Keywords: Conventional Energy; Electricity; Kinetic energy; Speed breaker

I. INTRODUCTION

The roller moves to produce linear to rotational motion when a car reaches a speed breaker. Similar to solar technology, the rotating motion is transferred to a DC generator, which generates DC power that is stored in batteries.

Modernization is the key to progress in any nation, and given that India is now in the development stage, many things need to be altered, improved, or created. Modernization is the process of updating things to their most recent forms. Electrical energy will undoubtedly be the driving force behind this entire modernisation process because it calls for the employment of numerous different devices.

Due to this, the amount of electricity now produced cannot keep up with the rate of development, and in order to do so, the generation

II. LITERATURE REVIEW:

P. Santosh Kumar, G. Ravi Teja, B. Sanjay, Y. Siva Mallesh, and Energy Production Using a Speedbreaker International Journal of Novel Science and Technology Research Volume 6, Issue 1, January 2014... [1]

Currently, there are a lot of vehicles on the road that emit pollution and use their mechanical energy only for transportation. If, however, we could convert that mechanical energy into some useful electrical energy, we could use it to power street lights and potentially save some electrical energy. This article lists and extensively examines a variety of speed breaker-based power generation techniques. Each sort of power generation method was the subject of numerous studies by numerous writers, and the findings are presented here. These techniques are

M. Prasath, R. Sankar, P. Dheenathayalan, T. Dharshan, and R. Nagaraja Energy Production Using Roller Mechanisms Volume 2, Issue 2, March-April 2015, International Journal of Advanced Research in Technology, Engineering, and Science.....[2]

This essay aims to demonstrate how energy can be harnessed and applied at a widely used system called a load speed breaker. Electricity is becoming more and more necessary as more appliances need to run. Creating energy from multiple sources, such as a speed breaker, is a novel idea that is now the subject of investigation. The number of vehicles on the road is growing quickly, and if we can use some of that energy to rotate a roller, we can generate a sizable amount of electricity. The current demand is

Kazi Tahsan Ahmed, Md. Emran Hossain, and Md. Rokib Hasan Naoshat Munim, Md. Shawon's RACK and pinion power generation Fourth International Conference on Electrical Engineering Advances... [3]

In the modern world, power is everything. Since the dawn of science, people have continued to seek out the causes of things, alter them, and create new theories and techniques in the hopes of a brighter future. The secret to improving a nation's economic standing is improving the efficiency of power generation. This research addresses how to make use of the energy that is lost when cars cross a speed limiter. The Rack and Pinion mechanism, which converts rotational energy into electrical energy, has been used in the design of the proposed project to properly utilise lost energy during the passing over the speed breakers.

Mohammed Kaiser Hamid, Md. Mahmudul Hasan, Mohammad Nokib Monsur Rafid, Akib Jayed Islam, Sadman Shahriar Alam, and Md. Azizul Hoque. Roller, rack, and PINION mechanisms for power generation On February 7–9, 2019, the International Conference on Electrical, Computer and Communication Engineering (ECCE) will be held. [4]

Power is currently the most important thing. Researchers are examining several green and renewable energy sources to meet the current demand for an uninterrupted power supply. It is necessary to establish a wired connection to power equipment, either using batteries or a grid line. It is challenging to periodically charge the batteries using conventional methods in places like busy roads and rural areas since the batteries are sensitive to charging and maintenance. Energy harvesting can help with this problem.

Sujeet Kumar Mishra, Abhishek Jakhmola, Shasank Mittal, and Aditya Sinha Energy Production Using a Speedbreaker Accepted on June 15, 2020, after revisions on June 4, 2020.....[5]

Green energy production has become an absolute necessity given the current levels of energy scarcity and fast rising fossil fuel emissions. This essay provides a thorough examination of a speed breaker that generates power by harnessing the weight and momentum of the moving vehicles to do so, preserving otherwise "wasted" energy. The concept uses a slider-crank mechanism to change reciprocating motion into rotary action, a strut to return the bump to its initial position, and a gear drive to transfer power. The study reveals that 64.25

III. NEED OF PROJECT

The newest method for producing electricity with the least amount of input is called a Speed Breaker Power Generator (SBPG).

The paper describes an experimental study to generate power using SBPG. A rack and pinions mechanism is utilised in this system to produce electricity.

IV. OBJECTIVE

To create electricity at a minimal cost, to capture a readily available supply of energy, or to use a non-traditional source of energy. The energy produced by the speed breaker mechanism can be stored in batteries and used separately for a variety of tasks. The work's primary goal is to generate free electricity with minimal space requirements, no pollution, and no need for fuel.

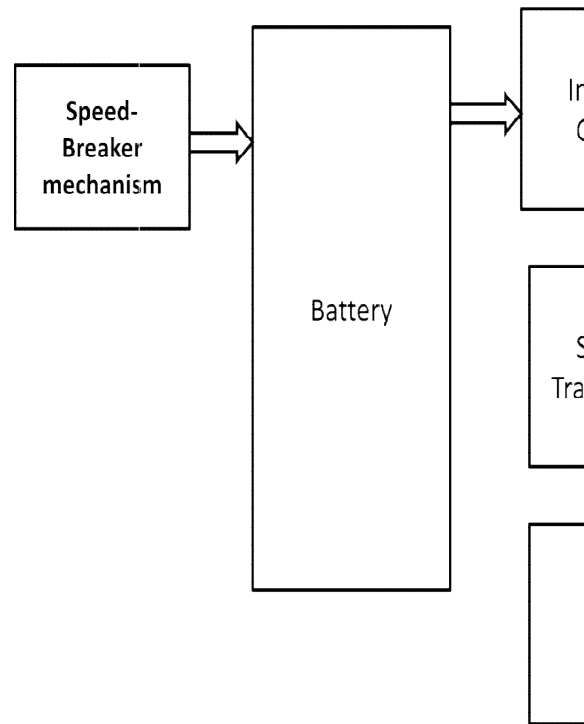
V. SCOPE OF PROJECT

It generates a lot of energy when a vehicle drives over it. By using the speed breaker as a power generating equipment, we may harness the energy produced and create power.

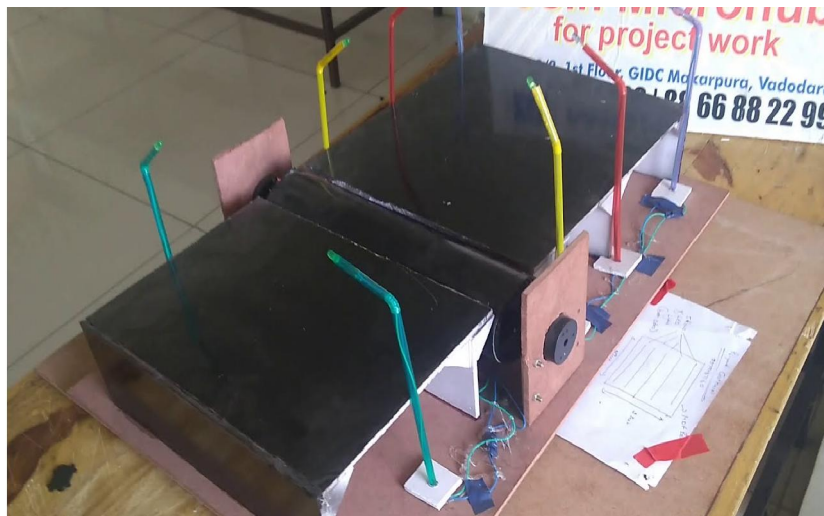
Through the use of a rack and pinion system, the kinetic energy of moving objects can be transformed into mechanical energy for a shaft.

VI. PROPOSED METHODOLOGY:

In order to press down and run the generator motor and generate energy, the system first makes use of the speed breaker press. The speed breaker is pushed back into place by the spring mechanism.



VII. RESULT



VIII. CONCLUSION

As electricity demand rises day after day, an electric crisis happens. Therefore, speed breakers can be used to create electricity for small electrical needs like traffic lights and street lighting. The minor needs can be addressed by transforming kinetic energy into electrical energy rather than wasting it at speed bumps.

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