



PEDAL POWER GENERATOR

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Abstract

Nowadays many people want to maintain their body fit and healthy. So in order to maintain their body they are going to gyms. So there are so called exercycles or spinning bike to do indoor cycling, which helps to burn their calories and this is done by many people irrespective of age. So, we wanted to do a project where two things can be done a time i.e. generating electric power which can be used and we wanted to do a project where recycled and waste materials are used to make. So, that people don't have to afford costliest exercycles which we get in market. we have come with our project named "PEDAL POWER GENERATOR". Here comes the working of our project, we design a chassis body of exercycle using recycled iron, we attach a high RPM DC motors near the tiers so that the Dc motor can convert the mechanical energy to electrical energy and this electrical energy is then stored into a battery or it can be used at that time itself. As every project has advantages and disadvantages to generate good amount of electricity people must burn more calorie's i.e. cycling should done for long time.

1. INTRODUCTION

Three in four adult do not get enough physical activity, four in five students of high school do not get enough physical activity. ₹8,795.48 billion in annual health care costs are related to low physical activity. So we planned to make a pedal power generator i.e. exercycle with simple design and low cost. Here the pedal power generator is a stable cycle by cycling we

can improve our physical status and as well as we can generate smidge amount of electricity by converting the mechanical energy to electrical energy as we already aware.

2. RELATED WORK

The literature studies the various technologies that are used world wide pedal power generator In this setup we had LCD is placed and dc motors which plays



an important role. When we pedal then dc motors may start generating and gets electricity. It produces current and then gives to the battery. It stores the current and uses for necessary purpose like charging the phone, uses to switch board for anled light etc.The objective of this research to design the construct the pedal power generator. Arduinouno is connected to the LCD(liquid crystal display) and the pulse sensor to check the heartbeat and burning of calories. This all connections are given through bread board. This is done through C language and then it gets worked and shows the heart beat and calories burn. For this consumption this equipment works very good. It may be placed in any corner of our house and wecan use it to be fit and perfect. It could be in fixed position.

3. IMPLEMENTATION

People are facing problem and mainly not working i.e., home makers. So, people need to be fit in this busy schedule in present living. So, it is important to do exercise daily. So, we have come with a low cost and simple design stationary cycle which is used for exercise and generate the electricity and can be reuse at any time.

Objective

Easy design.

It generates electricity compared to the existing solutions.

It works good compared to others.

Low cost.

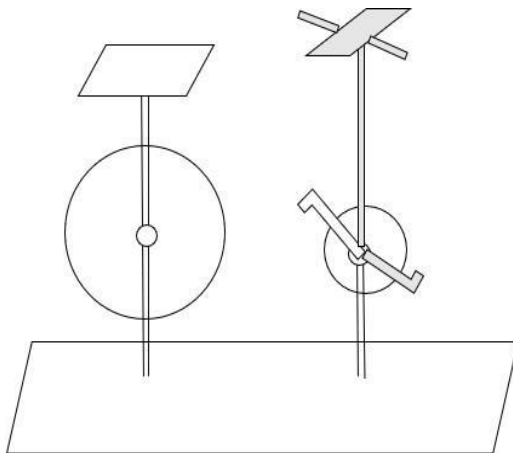
Pedal power generator is the most useful and common exercise which is used by the people. It works on the mechanism of power generation through pedaling with this the two works are down i.e. cycling and generating smidge amount of electricity. We made the project by using recycling waste materials. We have attached high Rpm DC Motors near the tiers of cycle when pedaling is done the cycle tier helps Dc Motor shaft to rotate through the power is generated and stored in batteries of 3.7 V each.The aim of this project is to ensure that electricity is generated while pedaling and to display the pulse rate at the time of pedaling. whilepedaling the mechanical energy is converted into electrical energy by using dc motors and calories burnt is displayed through the lcd display. This seeks to address the challenge of accurate, low power as well as economical microcontroller based pedal power generator that can be implemented using the cycle, Arduino Uno, pulse sensor, LCD



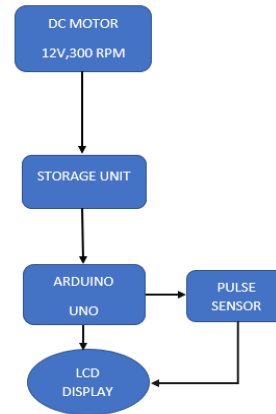
display, DC motors, output source (switch board).

4. EXPERIMENTAL RESULTS

In this project we include design and construction of pedal power generator made using reused materials. We have used Dc Motor attached to the tire and the body of cycle is fixed to the wooden plank. Batteries of 3.7 V is used for storing power which is generated by the motors when the pedaling of stationary cycle is done.



Here comes the working of our project, we design a chassis body of exercise cycle using recycled iron, we attach a high RPM DC motors near the tires so that the Dc motor can convert the mechanical energy to electrical energy and this electrical energy is then stored into a battery or it can be used at that time itself. As every project has advantages and disadvantages to generate good amount of electricity people must burn more calories i.e., cycling should do for long time.



Block Diagram



Prototype

5. CONCLUSION

The aim of this project is to ensure that electricity is generated while pedaling and to display the pulse rate at the time of pedaling. While pedaling the mechanical energy is converted into electrical energy by using dc motors and calories burnt is displayed through the lcd display. This seeks to address the challenge of accurate, low power as well as economical



microcontroller based pedal power generator that can be implemented using the cycle, Arduino Uno, pulse sensor, LCD display, DC motors, output source (switch board). It can be used in small or medium scale for generations like villages and backward areas. It can be used as power generating and to be fit. It is mainly used in the houses and the homemakers. Pedal power generation is used to generate the energy and store to the battery through dc motors and it can be connected through switches. Pedal power generation is the project based on reused cycle and has a scope to used to the new user and no need to afford costliest stationary exercycles.

6. REFERENCE

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