

Development & Fabrication of Exercise Cycle Cum Power (Electricity) Generator

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Abstract:- Human beings have always needed and consumed more and more energy for substance and well-being. Because of this, many energy resources have been depleted and wasted. People's lives today pass with inevitable and frequent blackouts of about three hours a day, and this is hardly controlled by the wealthiest who use power generators, rather than middle-class people. In order to overcome this problem of the middle class and below average people, this project uses the pedaling concept of the bicycle to develop an electrical energy that can be used to cook food, especially at the moment of a power outage. When pedaling the bicycle, mechanical energy is converted into electrical energy via the hand. In our project, the bicycle generators are placed in the gym and their function and feasibility are analyzed.

Nowadays power and energy are the one of the simple wishes in this contemporary world. Energy call for is growing day via way of means of day. On the opposite hand, the various power assets have become exhausted and wasted. Millions of humans flow around. This complete power is wasted. If this power made feasible for usage, then it will likely be a splendid invention. In this challenge we're changing non-traditional from simply pedalling into electric power. This challenge makes use of easy power mechanism which includes chain and belt drives. The manipulate mechanism incorporates the pedal and gears, D.C Car alternator, gear, shaft and Battery.

Non-traditional power machine could be very critical at the moment to our nation. Non-traditional power these use of pedal wishes no gas enter energy to generate the electric energy. In this challenge the easy power mechanism which includes chain and sprocket, pulley and belt meeting mechanism is used for producing energy via way of means of usage of pressure that is acquired all through the pedalling is transformed into electric power with the assist of mechanical machine.

Keywords:- Alternator; pedal; chain; pulley; bicycle; rechargeable batteries.

I. INTRODUCTION

IT As the availability of conventional energy declines, there is need to find alternate energy sources. All most all the state electricity departments in our country, they are unable to supply the power according to the demand.

There by an alternative source must be discovered, many peoples proposes for solar energy, but it is going to be a costliest, moreover availability of solar energy is poor particularly in rainy and winter seasons.

Hence an alternative cheapest method must be determined for few applications: consequently this project work has been taken up, which is aimed to generate electricity from.

Out of the many alternative energy resources, this technology described in this project report is the ultimate source of all known forms of energy. It is clear, safe, and does not pollute the environment and thus will be extremely reasonable alternative in the days to come. As there is tremendous increase in the crowd, the load applied on the footstep by the people, it generates non-stop energy, which can be stored and utilized. Here the concept is to convert the mechanical energy into electric energy.

Man has needed and used energy at an increasing rate for his sustenance and well-being ever since he came on the earth a few million years ago. Primitive man required energy primarily in the form of food. He derived this by eating plants or animals, which he hunted. With the passage of time, man started to cultivate land for agriculture. He added a new dimension to the use of energy by domesticating and training animals to work for him. With further demand for energy, man began to use the wind for sailing ships and for driving windmills. Till this time, it would not be wrong to say that the sun was supplying all the energies needs of man either directly or indirectly and that man was using only renewable sources of energy.

This whole human energy being wasted if can be made possible for utilization it will be great invention and power producing platform will be very useful energy sources in crowded countries.

II. LITERATURE REVIEW

- **J. SUNIL et.al.[1]**
 - Bicycle pedalling idea is hired to expand an electrical energy which may be used for cooking meals specifically on the time of energy cut.
 - The bicycle pedalling converts the mechanical electricity into electric electricity via manually.
- **Rajesh Kannan Megalingam et.al.[2]**
 - Power may be additionally generated from the rotation of the wheels of alternator motors like motorcycles and cars, in which there may be a opportunity of producing greater energy.
 - Riding bicycle enables in retaining a great physic and alongside with-it energy may be additionally generated.
- **Dr. M. Damodar Reddy et.al.[3]**
 - Generation of Power from Bicycle Pedal” It is thought that the deliver of fossil fuels are scarce and their utilization as electricity supply reason environmental degradation
 - In addition to this as the sector populace will increase the electricity call for is likewise growing day through day, so we're in a seek of recent renewable electricity sources.
- **San Luis Obispo et.al.[4]**
 - Wheel’s movement to DC energy, to transform that DC energy to usable AC energy, and finally to have the ability to expose the energy utilization of incandescent and compact florescent mild bulbs.
 - The vital a part of this venture is being capable of take the variable DC voltage this is produced through the variable pedalling pace and changing it to a solid 12V DC output that may be transformed to AC energy via an inverter.
- **Manish Yadav et.al.[5]**
 - Energy crises want to look for exchange supply of electricity this is mainly renewable electricity.
 - Human energy credit score is greater due to fitness advantage as a supply of electricity.
 - More powerful use of human energy will be carried out via nicely designed mechanisms

III. METHODOLOGY / MATERIALS AND METHODS

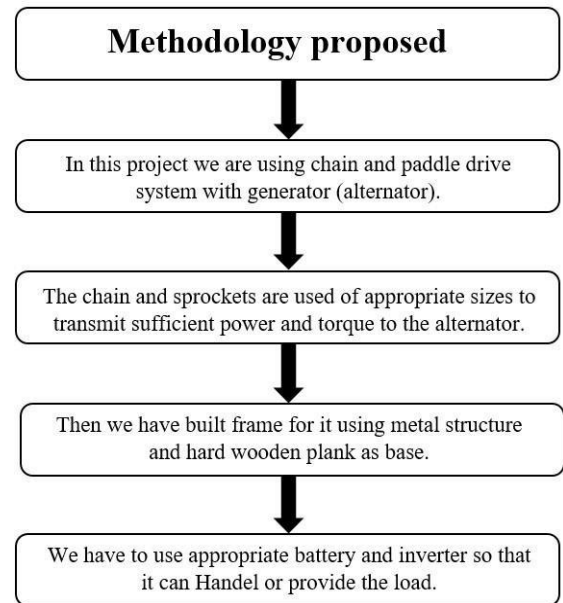


Fig. 1: Methodology Proposed

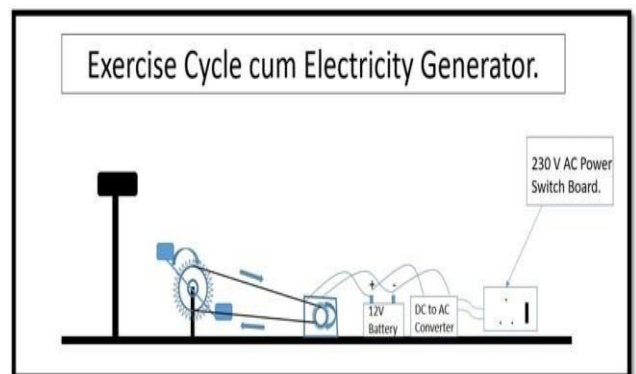


Fig. 2: Concept Diagram Of Idea

IV. ADVANTAGES AND SPECIFICATION

- Converts the wasted power into usable electric powered power.
- We can keep power Save as much as 10-15% fee In electric powered invoice of the owner.
- No very massive setup simply minor changes are required to be made in normal workout cycle.
- The machine serves as a medium to generate power the use of non-traditional source.

V. CONCLUSION

The project falls beneath the situation of non-traditional strength sources, out of the numerous opportunity strength sources one reliable supply is sun strength, however it's miles quiet most expensive affair. The bicycle generator and feasibility is correctly analysed. The running precept of the bicycle generator turned into correctly studied. Various value estimation approximately earnings and lack of the bicycle generator are studied and calculated via way of means of manually. It is specially used for domestic purpose. It may be used at diverse charges wherein electric electricity is required. Due to the portability of the belongings it could be effortlessly taken to anywhere. Therefore opportunity most inexpensive supply is to generate strength from workout cycle. This generation verified right here is the closing cheaper supply of all acknowledged sorts of strength. When it's miles carried out practically, this electricity may be applied for lots applications. Our essential gain of manufacturing strength via this generation is that it does now no longer pollute the environment.

REFERENCES AND BIBLIOGRAPHY

- [1.] According to J. Sunil : 'Bicycle Power Generation And Its Feasibility' 'The gift existence of the humans is walking with unavoidable common strength cuts of approximately 3 hours in line with day and that is hardly ever managed with the aid of using wealthiest the usage of electric strength mills and now no longer with the aid of using center order humans.
- [2.] According to Rajesh Kannan Megalingam : "Pedal Power Generation" Bicycle is the principle mode of transportation for lots Indian villagers. Most of those villages are unelectrified.
- [3.] According to Dr.M.Damodar Reddy: "Generation of Power from Bicycle Pedal" It is thought that the deliver of fossil fuels are scarce and their utilization as power supply purpose environmental degradation, similarly to this as the arena populace will increase the power call for is likewise growing day with the aid of using day, so we're in a seek of latest renewable power sources. In this paper an smooth manner of producing strength at small stages with the aid of using the usage of bicycle pedal changed into analyzed.
- [4.] According to San Luis Obispo: The motive of this senior venture is to design, build, and be capable of gift a mechanism a good way to produce AC strength the usage of the mechanical power produced with the aid of using someone pedalling a trendy bicycle.
- [5.] According to Manish Yadav : Power Generation Using Bicycle Mechanism as an Alternative Energy Source. In this paper significance of human powers an opportunity power supply is investigated, on the grounds that starting to give country and its destiny scope.