

1. **Title of the Invention:** Mobile Charging Device as Clean Energy Source in Cycle using Dynamo
2. **Applicants Name:** Shyampur Siddheswari Mahavidyalaya
3. **Inventors:** Soumodip Samanta, Avijit patra, Avik Kumar Pakhira, Mandira Das, Prosenjit Dawn, Surajit Mandal.
4. **Field of the Invention:** Clean Energy
5. **Background of the Invention:** Keeping in mind the need of alternative and clean sources of energy in today's world we had developed an alternative power source to charge the phone/torch by pedaling bicycle. Increasing use of smart phone has induced need of power source at all sort of occupation, specially for the delivery persons. Uninterrupted continuous power supply may be a problem in rural areas especially in monsoon season; which leads to an increasing demand of power banks and at the end generation of E-Waste. On the other hand dynamo has become obsolete, contributing to solid waste again. Combination of these simple things has resulted in an innovation which is not available anywhere in the market. Also the system is very much cost effective as it reuses products available with users. It is super handy and hence can be installed and used anywhere without much effort. Also keeping in mind that cycling is an excellent exercise, we can charge our mobile/ear

phones/power bank etc in expense of some calories. Also it helps to reduce our dependency on conventional sources of energy and is great alternative during electric shortage or break down.

6. Summary of the invention: This system uses an old cycle and an old dynamo and has ability to generate enough power to charge a mobile. A dynamo is taken, we know that dynamo produces alternative current (AC). Then, a bridge rectifier is connected. bridge rectifier primarily is designed to convert AC input from mains power to a DC output. Then an electrolytic capacitor is used to reduce voltage fluctuations in various filtering devices used in output. A voltage regulator is used to control the unregulated voltage. Then the USB plug is connected with the voltage regulator.

7. Advantages over the prior art:

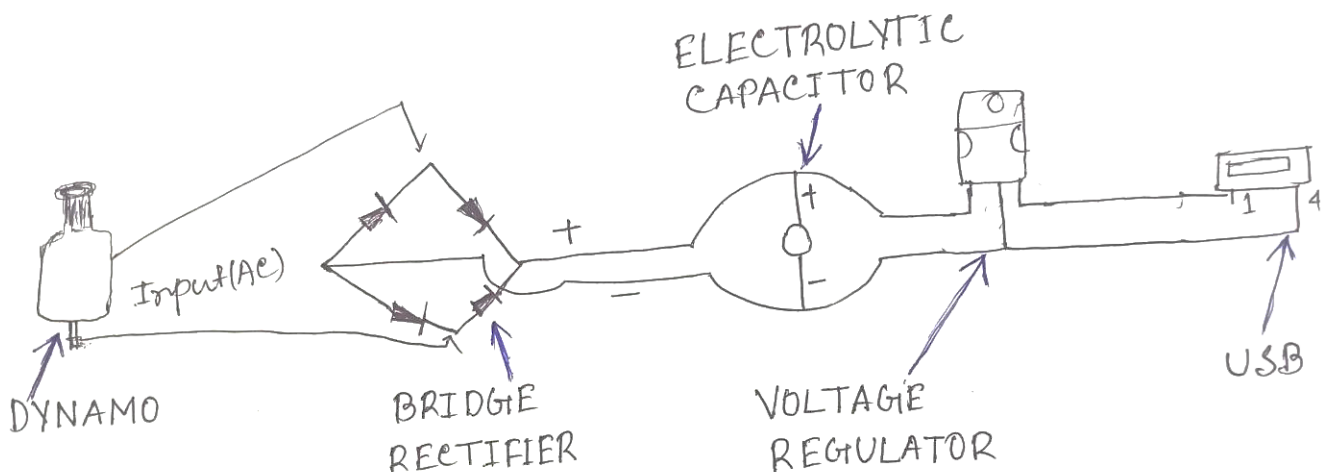
- Conventional energy consumption will decrease and clean energy consumption will be promoted.
- In-built mobile charging point can be added in future cycles.
- Easy to install and easy maintenance.
- Reuse of obsolete devices will facilitate reduction of E-Waste.

8. Claim:

- a. Economical and cost-effective system.
- b. Till yet not available in the market.
- c. Eco Friendly and innovative promoting sustainable practice.

9. **Abstract:** The work describes the design of a clean and Alternative energy system development with ability to charge small electronic devices and can be deployed for a range of applications. While cycling we can generate power that can be used to charge smart phone etc. This device can be used to harness the energy we lose while exercising in a cycle. Delivery boys who deliver food or other items on bicycles (especially in rural backdrop) can charge their phones on the go. This could be helpful during continuous power cut in rural areas specially during monsoon season. The diagram and photographs provided here describes the device developed as a prototype.

10. Drawing:





11. Performance Video Link: [Demonstration of the Device.](#)

12) Signature of all applicants.

Soumodip Samanta

Arijit Saha

Mandira Das

Arin Kumar Pal

13) Signature of Mentor:

Prosenjit Dasg

Surajit Mandal