

ELECTRICITY GENERATION BY WHEELED STRETCHER

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ABSTRACT

The aim is to design and to develop an Electricity generation using stretcher system to reduce power consumption of hospital and utilize kinetic energy of stretcher wheel which would otherwise be wasted. A stretcher is an apparatus used for moving patients who require medical care. The main aim of this project is to reduce actual power consumption from main power source.

The wheel is connected to a dynamo by means of coupling, which is used to generate power. Depending upon the move the wheel will start rotating, and then the dynamo will also starts to rotate. A dynamo is a device which is used to convert the kinetic energy into electrical energy. The generated power can be stored in the battery and then this electric power has reused for lamps, fans and other medical equipments.

Keyword : - *Dynamo, Stretcher, Kinetic energy, Electric energy.*

1. INTRODUCTION

We waste so much energy. As much as 60 percent of energy is wasted as heat and kinetic energy. Our laptops, nuclear power plants, chemical factories, cars and physical work all contribute to this waste of energy. The idea is to use the kinetic energy from stretcher to generate electricity. The prototype Which is stretcher with dynamo fixed to its all four wheel. Now a days we are facing to energy crises due to lack of energy sources. The only way to solve this problem is to utilize maximum energy as much as possible. And this concept is small step toward this great idea.

2. WHEELED STRECHER

For ambulances, a collapsible wheeled stretcher, or gurney, is a type of stretcher on a variable-height wheeled frame. Normally, an integral [lug](#) on the stretcher locks into a sprung latch within the ambulance in order to prevent movement during transport. It is usually covered with a disposable sheet and cleaned after each patient in order to prevent the spread of infection. Its key value is to facilitate moving the patient and sheet onto a fixed bed or table on arrival at the emergency department. Both types may have straps to secure the patient. So that we are mainly this stretcher for our project. The arrangement is very simple and easy for maintenance. The primary cost is also less.



Fig.-1: the stretcher

3.DYNAMO

A dynamo is an electrical generator that produces direct current with the use of a commutator. Dynamos were the first electrical generators capable of delivering power for industry, and the foundation upon which many other later electric-power conversion devices were based, including the electric motor, the alternating-current alternator, and the rotary converter. Today, the simpler alternator dominates large scale power generation, for efficiency, reliability and cost reasons. A dynamo has the disadvantages of a mechanical commutator. The dynamo convert kinetic energy of stretcher wheel into electrical energy.

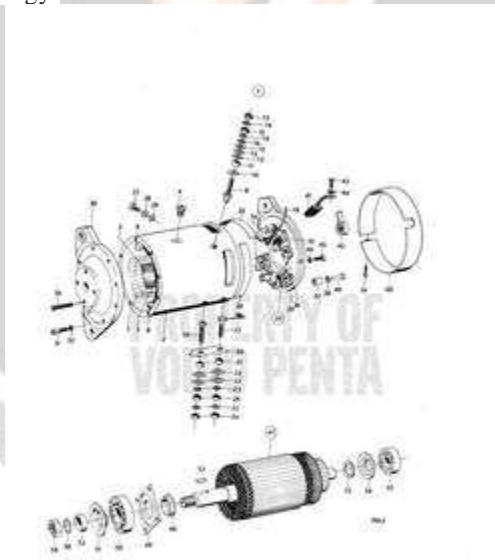


Fig. -2: Dynamo

4.BATTERY

The energy generated by dynamo is stored in the battery. This battery is then used to supply electricity for further use. An electric **battery** is a device consisting of one or more electrochemical cells with external connections provided to power electrical devices. A discharging battery has a positive terminal, or cathode, and a negative terminal, or anode. The terminal marked negative is the source of electrons that when connected to an external circuit will flow and deliver energy to an external device. When a battery is connected to an external

circuit, electrolytes are able to move as ions within, allowing the chemical reactions to be completed at the separate terminals and so deliver energy to the external circuit. It is the movement of those ions within the battery which allows current to flow out of the battery to perform work. Historically the term "battery" specifically referred to a device composed of multiple cells, however the usage has evolved to additionally include devices composed of a single cell.

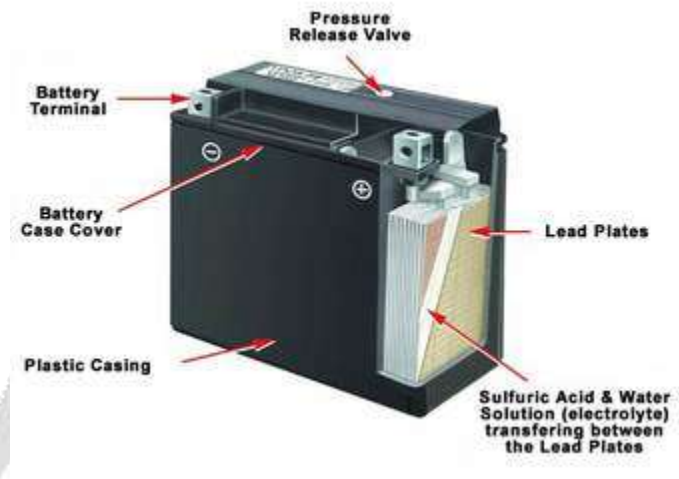


Fig.-3 : Battery

4. CONCLUSIONS

The conclusion from above project is that it can help to solve electricity problem which is most common for our country. In rural areas electricity demand is very rapidly increases for water pump and in metro areas for house and industrial applications. Now a days we have to save energy and try to utilize it as much as possible. This stretcher based project will also reduce load on emergency generator of hospitals.

6. REFERENCES

- [1]. www.wikipedia.com
- [2]. Crompton, T. R. (2000-03-20). Battery Reference Book (third ed.). Newnes. p. Glossary 3. ISBN 0080499953. Retrieved 2016-03-18
- [3]. "Battery - Definition of battery by Merriam-Webster". merriam-webster.com