

GENERATION OF ELECTRICITY THROUGH FOOTSTEP

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Abstract- *In this project we are generating electrical power as non-conventional method by simply running on the train in the foot step. Non-conventional energy system is very essential at this time to our nation. Non-conventional energy using foot step needs no fuel input power to generate the output of the electrical power. This project using simple drive mechanism such as rack and pinion assemble and chain drive mechanism.*

For this project the conversion of the force energy in to electrical energy. The control mechanism carries the rack & pinion, D.C generator, battery and inverter control. We have discussed the various applications and further extension also. So this project is implemented to all foot step, the power generation is very high. The initial cost of this arrangement is high

1. INTRODUCTION

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. Subsequently he discovered fire and his energy needs increased as he started to make use of wood and other bio mass to supply the energy needs for cooking as well as for keeping himself warm.

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, and the force of falling water to turn water wheels. Till this time it would not be wrong to say that the sun was supplying all the energy needs of man either directly or indirectly and that man was using only renewable source of energy.

1.1 FOOT STEP ARRANGEMENT

This is made up of mild steel. The complete set up is fixed in this model FOOT STEP. The two L-shapes frame is fixed in the above two ends of the track. Below this l- shapes window, the actual power generation arrangement is constructed. This L-shapes window pushes the rack when the time of train wheel moving on these arrangement.

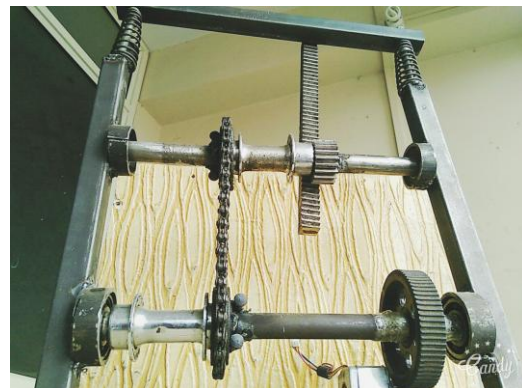
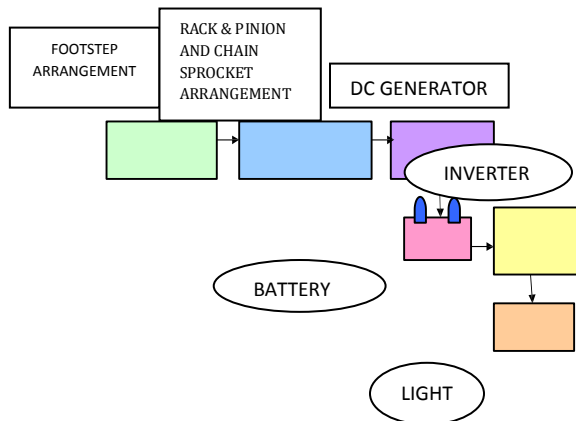


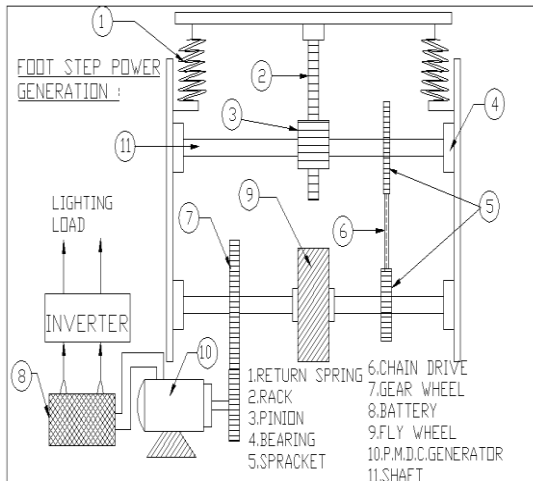
Fig -1: Footstep Arrangement

2. DIAGRAM

2.1 BLOCK DIAGRAM



2.2 ASSEMBLY DIAGRAM



3. WORKING PRINCIPLE -

The complete diagram of the power generation using FOOT STEP is given below. L-shapes window is inclined in certain small angle which is used to generate the power. The pushing power is converted into electrical energy by proper driving arrangement. The rack & pinion, spring

arrangement is fixed at the FOOT STEP which is mounded bellow the L-shapes window. The spring is used to return the inclined L- shapes window in same position by releasing the load. The pinion shaft is connected to the supporter by end bearings as shown in fig. The larger sprocket also coupled with the pinion shaft, so that it is running the same speed of pinion. The larger sprocket is coupled to the small cycle sprocket with the help of chain (cycle). This larger sprocket is used to transfer the rotation force to the smaller sprocket. The smaller sprocket is running same direction for the forward and reverse direction of rotational movement of the larger sprocket. This action locks like a cycle pedaling action.

stored to the Lead-acid 12 Volt battery. The battery is connected to the inverter. This inverter is used to convert the 12 Volt D.C to the 230 Volt A.C. This working principle is already explained the above chapter. This 230 Volt A.C voltage is used to activate the light, fan and etc.By increasing the capacity of battery and inverter circuit, the power rating is increased. This arrangement is fitted in FOOT STEPS; the complete arrangement is kept inside the floor level except the pushing arrangement.

4. CONCLUSION AND OUR PROSPECTUS

In concluding the words of our project, since the power generation using foot step get its energy requirements from the Non-renewable source of energy. There is no need of power from the mains and there is less pollution in this source of energy. It is very useful to the places all roads and as well as all kind of foot step which is used to generate the non conventional energy like electricity.

It is able to extend this project by using same arrangement and construct in the footsteps/speed breaker so that increase the power production rate by fixing school and colleges, highways etc.

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