

Electric Bicycle Using Drilling Machine

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Abstract-Because the pollution of world can increase quickly in our surroundings by fuel engine, to avoid this electrical bicycle offers a cleaner to the setting. This paper gift development of “ELECTRIC BICYCLE”. The aim of this paper is to point that the standard bicycle is usually became electrical bicycle by adding drilling machine that's innovative for the electrical bicycle that is “ELECTRIC DRILLING MACHINE” and providing of battery, device and device. The key innovation of this project is light-weight weight, powerful and speed management by front break and rear break. From customary automobile for transport we tend to tend to tend to expertise issues like hold up and pollution from fossil fuelled vehicles. Therefore, the thought of electrical bicycle is innovative that move our world towards the event and build setting cleaner. This paper define demand to with successes developed the specializing in fixing of drilling machine, battery management. The study aims to supply reference information for negligible modification to convert into convectional bicycle.

Keywords-Drilling machine, solar panel, battery, dynamo, Transformer.

I. INTRODUCTION

Currently the electrical bicycle experiencing a coming back mature, primarily the low emission transportation different in massive cities. Modern electric bicycle integrates many innovations from technology and design, particularly in the past year. The electric bicycle plays an important role towards environment, which will work as a cleaner. Due to petrol/diesel-powered automotive the pollution of our country is increasing rapidly, and slowly reaching to the peak point due to which most of the problem is arises. Therefore, our country is trying to save our environment with the help of electric bike. The latest technology of electric bicycle is used to overcome this type of problem. Although the convectional bicycle is efficient and well understood machine, therefore the electric drilling bicycle is typically incorporating battery, which can be charged by a solar panel and dynamo. The bicycle itself had no gear and therefore drilling machine may draw up to 12V battery. The performance of battery, solar panel and drilling machine are work properly which will offer a cleaner environment. Therefore, electric bike has simultaneously gain popularity in various region. The year progress, further and extra electrical bikes were created with

varied driving mechanisms. The electrical bicycle offers a cleaner various to travel short-to-moderate distances instead of driving a petrol/diesel-powered automotive. The worth of crude has increased think about over the past few years and it's to be no turning back. The test result can be used to implement various electric assist for power management and battery sizing. The electric bicycle could be a project, which will reduce pollution of our environment and gives better transportation.

II. COMPONENTS

These are the subsequent parts with specification, that is employed to coming up with “ELECTRIC BICYCLE DRILLING MACHINE” and that they are:

- Solar panel
- Battery
- Transformer
- Drilling machine
- Dynamo

Solar panel:

So, this project is incredibly immeasurable helpful, since it given good quality of power sources and straightforward operational mechanism. therefore “each drop of fuel saves our economy and meets the needs” is that the saturation that's to be earned as quickly as potential. thus, on attain this saturation we tend to should avoid wasting and look for another offer of power. This power, the alternate power need to be much more convenient in accessibility and usage. consecutive necessary reason for the search of effective, pure emu of mensuration to avoid wasting the peripheral environments, to boot as men, machine and material of each the prevailing so succeeding generation of pollution, the cause for several harmful happenings and to attain the saturation. The pure zero emission electrical and energy, is that the completely just potential alternate provides. Thus, we tend to tend to ought to embody the electric power at intervals the sphere of automobile, the conception of the assorted Multi-National firms (MNC) and to induce quenched from the worldwide organization correctable pollution. This implementation conception is tried to the simplest two-wheeler Bicycle. The regulation of the system starts with the connections. In begin their unit of mensuration two terminals.

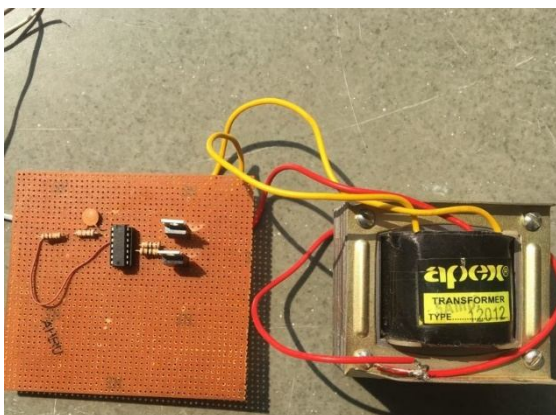
One is that the positive terminal and another one is that the negative terminal. The wire connections were created for the flow of electrons from one zero.5 to a novel zero.5.

Battery:

Batteries vary in line with the voltage, total charge capability (amp hours), weight, the quantity of charging cycles before performance degrades, and talent to handle over-voltage charging conditions. the amount of electrical battery pack varies relying upon the sort of usage. Shallow discharge/recharge cycles will facilitate extend the battery life. thanks to the utilization of electrical drilling machine most of the parts are cut back that build style easy and facilitate in management of battery. This bicycle was charged from main supply. whereas in the main in past battery don't seem to be sturdy for a protracted time however the businesses have begun to involve some innovative concepts for making a lot of sturdy batteries.

Transformer:

A device is associate device that transfers voltage between 2 or further circuits through magnetism induction. A variable current in one coil of the device produces a variable magnetic flux, that in turn induces a variable electromotive force or voltage in an extremely second coil. As we tend to use electrical device in our project it'll facilitate to produce correct voltage to a drilling machine the ability is transferred between the two coils through the magnetic flux, transformers accustomed increase or decrease the alternating voltages in power applications. during this project, we tend to use improve electrical device.



Drilling machine:

Drilling could be a cutting method that uses a drilling bit to chop a hole of circular cross-sectional in solid materials. The drilling bit is sometimes a rotary cutter, usually multi-

point. The bit is ironed against the workpiece and revolved at rates from lots of to thousands of revolutions per minute. Because of that thousand revolution we are using for it rotatory motion. In our project, the drilling machine is placed at the top of shaft of paddle, therefore when the drilling machine is rotating then the paddle shaft also rotate & without paddle we can drive the bicycle.



Dynamo:

A generator is an electrical generator that produces electricity with the employment of an electric switch. Dynamos were the primary electrical generators capable of delivering power for trade, and therefore the foundation upon that several different later electric-power conversion devices were based mostly, together with the electrical motor, the alternating-current generator, and therefore the rotary. Today, the less complicated generator dominates massive scale power generation, for potency, dependableness and value reasons. A generator has the disadvantage of a mechanical electric switch. Also, changing alternating to electricity victimization power rectification device is effective and frequency economical.



III. WORKING OF ELECTRI DRILLING MACHINE

Some of the bicycle has an electric motor that operates on a power on demand basis only. In this case we

replace motor with electric drilling machine which carry a current and voltage with the help of battery. When the solar panel convert light into electric current, it saves into battery and dynamo is also work simultaneously. It contents the following component which helps to complete work.

Front and rear wheel:

It is the main component of a bicycle, there are many type of wheel are available in market with high specifications. However, we are using light weight wheel which is moderate in size due to which the speed of bicycle increase. The front and rear wheel is the main part of bicycle which reduce some percentage weight and improve the efficiency.

Brake:

A brake is a simple component design to slow bicycle down and unsurprisingly this slowing down will result in eventually coming to halt. Slowing down and stopping are just as important as moving forward. There are many types of brake are present in market but we are using suitable brake as per our requirement. We are preferring a simple bush brake which will help to slow down the bicycle.

Battery:

To drive the drilling machine electricity is required and to fulfil this requirement we are using battery. There are various types of battery are available in market but according to our bicycle need we used LIION battery which fulfil our requirement. In our project, moderate size of battery is use which will reduce the weight of bicycle, improve performance and fulfil the requirement.

Frame:

Frame is the most important part of bicycle. Therefore, every automobile company are focus on frame it is backbone of automobile. Entire component of bicycle is mounted in it. We are using the frame of aluminium based frame with more rigid, light in weight and better management of other component.

Pedal:

Pedal is most important component of bicycle which help to move bicycle in forward direction. But in our project pedal is not involve instated of that we use drilling machine which is directly connect to the shaft. Due to removal of pedal the weight of bicycle is reduce.

Seat:

It is mounted on top of the frame with a comfortable cushion, so the raider sits comfortably.

Accelerator:

In our project, we give acceleration to the bicycle with the help of front break. The wire of front break is directly connected to the trigger switch of drilling machine which gives an acceleration to bicycle. Therefore, with the help of front break we control speed. And the rear break is also helped to control the speed of bicycle.

IV. CONCLUSION

By using an electric bicycle, we save our environment with minimum effort and make life easier. In “ELECTRIC DRILLING BICYCLE” controlling of speed difficult and battery management is complicated. The number of test we carried out to understand the behaviour of the bicycle under real driving condition. As there's synchronization between the electrical bicycle, less fuel consumption is seen with less charging cycle of batteries (long life per charge). If one electrical bicycle vehicle will save concerning a mean of half-hour of fuel, then a mean of concerning 40%-60% of national fuel is preserved by mistreatment this kind of car. Also, invoice may be saved, because the batteries last long per charge. a plan of charging the batteries through generator and electrical device may be enforced here. The durability and convenience to client is improved by mistreatment this kind of car. And this will provide knowledge to develop controlling, battery management and strategies for the entire system.

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