SMART SOLAR BENCH

Mr. Kunal Thakur[1], Mr. Harshad Parab[2], Mr. Omkar Shirodkar[3], Mr. Rohan Jangale[4], Ms. Prachi Chavan[5], Mr. Balasaheb Patil[6]

[1-5]Students, Dept. of Electrical Engineering, Yashwantrao Bhonsale Polytechnic, Sawantwadi, Maharashtra, India
[6]Lecturer, Dept. of Electrical Engineering, Yashwantrao Bhonsale Polytechnic, Sawantwadi, Maharashtra, India

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Abstract - This layout is grounded on a renewable strength supply the use of solar electricity. In this layout, we used renewable strength assets for producing electricity. Numerous merchandise is being redesigned to be extra powerful in the moment's generation. Similarly, merchandise comes extra movable, the call for movable electricity increases. Due to the drawback of reactionary strength, sun strength is getting extra famous as a renewable strength supply that could. Change the future. This is not only a bench but a Smart Bench. A Smart Bench is clever in a generation that will assist the unborn virtual global to be extra advanced. The concept of Smart Bench is to present the stoner installations that undergo the time and the stoner's want. Numerous clever bench executions are made these days those days, they have their different- structure, layout, make installations, pricing, and so on. Since additionally we students have had our concept of creating a clever bench else. This concept of Smart Solar Bench revolves around a few seating benches that we normally see at premises, auditoriums, gadget stops, airfields, amusement locations like outdoor playhouses theatres, council premises, sand arterials, etc. which includes metro metropolises.

***Key Words*: SOLAR, RENEWABLE ENERGY, SMART BENCH, USB, CHARGING**

1. INTRODUCTION

Advantages of such strategies in public locations like public parks, university campuses, transportation stations, etc. On the alternative hand, international locations and governments can advantage from solar electricity. This assignment will bring about a sun-powered charger that can offer electricity out of the sunlight. Regular benches which you see to your community are stupid and static, imparting not anything else but an area to take a seat down and wonder. Installing modern Smart Solar Benches that provide loose charging offerings to your telecellsmartphone or pill LED and mild all through the night time will enhance visitors' frequency and satisfaction. Smart Solar Bench has numerous integrated USB ports for charging all varieties of clever devices (phones, tablets, watches, etc.). You also can enjoy the rapid charging era that's included in the system.

2. BLOCK DIAGRAM

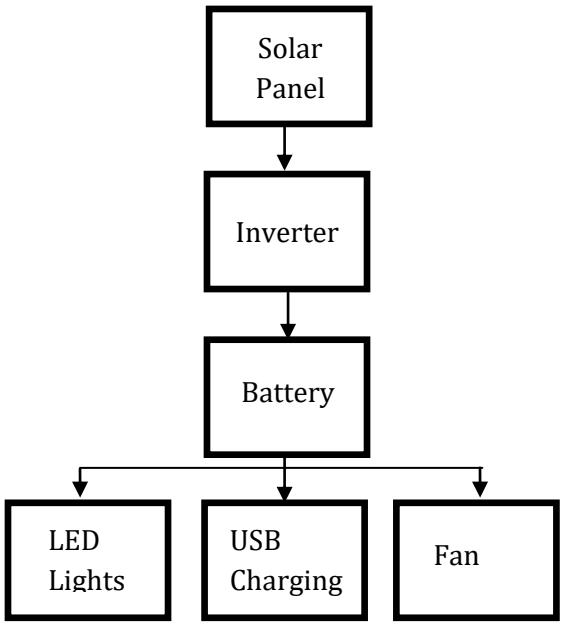

Fig -1: Block Diagram

3. OPERATION

In this study usage of solar energy as a trade supply of power to paintings on an open bench. The method we advocate is to test with the output energy of the photovoltaic cells measured beneath the neath,

The situations of the regional role of the sun molecular toward the constant earth. Next, describe the variables beneath neath study, current, voltage, and energy, and degree the illumination of radiation as relies on the variant inside the time it takes, carried measurements out at a region. the information series method is out via way of means of measuring using a digitmultimeterter and measuring equipment. The number one step earlier than measuring the environmental parameter variables is to shape the frame and set-up up the photovoltaic molecular electric powered bench via way of means of finishing the electric installation.

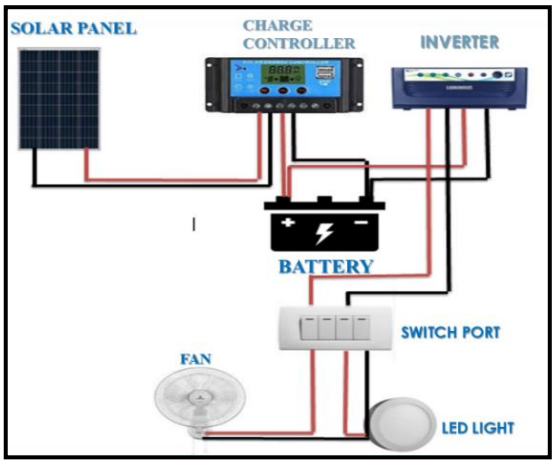

Fig -2: Layout Diagram

3.1 MAIN COMPONENTS

1) **Solar panel**: - Solar panels are the gadgets that are used to take in the sun's rays and convert them into energy or heat.

2) **Charge controller**: - A rate controller or rate regulator is a voltage and/or modern regulator to preserve batteries from overcharging. It regulates the voltage and modern coming from the sun solars going to the battery.

3) **Battery**: - The batteries utilized in a sun electricity gadget feature as electricity "accumulators" and are liable for storing the electricity acquired with the aid of using the solar panels.

4) **Inverter**: - The feature of an inverter is to transform Direct Current (DC) into Alternating Current (AC). DC is the modern created from the solar panel.

5) **Fan**: - A fan is a powered device used to create a go with the drift of air.

6) **LED lights**: - LEDs are mild assets that offer illumination in a selected direction.

3.2 BENEFITS

1. The design of the sitting arrangement is very neat and comfortable.
2. Led lights are helpful for night studies for students.
3. The maintenance cost of the Smart solar bench is very less.
4. Fast mobile charging facility is provided.
5. It's a renewable energy source so it is Environment friendly.

3.3 APPLICATIONS

It is used in Entertainment Parks, can place near playgrounds, Bus, and Train Station and Schools and universities Campuses.

4. CONCLUSIONS

It provided users with a modern charging and suitable resting solution in the form of the solar-powered very economical sitting bench.

Project of solar-powered charging bench has the potential of charging both IOS/ android phones of institution students as well as public phones because we have installed 240-volt inverter which is further connected through Indian standard 6 Amp socket so, the user only has to plug in his mobile charger into our solar bench socket so that our produced charge can flow and charges users accessories. A solar bench that has a good appearance and modern required charging solution to public/users also provides suitable and comfortable space to be rest on.

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