

Solar Grass Cutter

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ABSTRACT

The Solar Grass Cutter is a mechanical device used for cutting grass with the help of solar energy instead of electricity, fuels, and gases. Solar Energy is accepted as an energy source for the future of the world. The utilization of solar energy could cover a significant part of the energy demand in the countries. One of the most popular example of utilized solar energy that is solar grass cutter. To keep environment clean and use of fuel a solar powered grass cutter has been design in this research work. Purpose of making solar grass cutter is to help farmer and make their work easy. The solar grass cutter cost is very low and affordable to every farmer. One main advantage of its light in weight and farmer can easy carry where they want. It is very easy to operate for every farmer. The maintenance of solar grass cutter is very low. For making main body or frame of solar grass cutter we can use iron pipe or pvc pipe. In solar grass cutter solar panel is use for converting solar energy into electrical energy and it is used for charge a battery. Solar grass cutter battery is connected to electric motor and electric motor is used for rotating a blade and cutting grass.

Keywords:- Solar grass cutter ,Solar panel, Blade ,Battery, Electric motor.

1. INTRODUCTION

Because of the nonstop expansion in the expense of fuel and the impact of discharge of gases from the consumed fuel into the climate, this required the utilization of the bountiful sun oriented energy from the sun as a wellspring of ability to drive a solar grass cutter. A sun oriented fueled solar grass cutter was planned and created, in view of the general rule of cutting. Cutting is accomplished by the D.C motor which gives the required force expected to drive the tempered steel edge which is straightforwardly coupled to the shaft of the D.C motor. The sun oriented controlled solar grass cutter is worked by the switch on the board which shuts the circuit and permits the progression of current to the motor which drive the edge utilized for cutting. The battery re-energizes through the sunlight based charging regulator. Execution assessment of the created machine was done with various kinds of grasses. The sun gives reasonable measure of the energy utilized for different purposes on earth for air framework. The thing that matters is only the use of the energy source. It is accepted that a solar grass cutter utilizing sunlight based as the energy source will address various issues that the standard gas powered motor and electric engines grass trimmers don't.



Fig-1 Solar grass cutter

2. WORKING

In the solar grass cutter solar panel is use for converting solar energy into a electrical energy. Solar panel is connected to the battery which is use for storing the energy. The energy store in battery is use for driving the motor. Motor is connected to the blade or fan. Blade is use to cutting the grass. This is the simple working of solar grass cutter.

3. USES OF SOLAR GRASS CUTTER

1. It can be use in garden at home.
2. It can be used in Public Park.
3. It can be used in college.
4. It can be use in plot farms or agriculture work.

4. LITERATURE SURVEY

Prof. C. J. Shende: In this paper they have prepared manually handle device which is capable to cut the grass. This device consists of linear blades and it does not affected by climatic conditions. The main objective of this paper is to move the grass cutter is different directions to prepare various designs as per requirements. By using link mechanism the height of the cut can be adjusted. The unskilled labour can easily operate this device.[1]

C. B. Mills: Today, new technology is bringing us improved mower versions. Low emission gasoline engines with catalytic converters are being manufactured to help reduce air pollution. Improved muffling devices are also being installed to reduce the noise pollution. Battery powered mowers are also becoming practical. Although slightly smaller with an average cutting swath of only 17-19", these new mowers will quietly cutting lawns without the common cloud of blue smoke hanging in the air, for about an hour per charge. Prices are comparable to a high-end gasoline powered mower.[2]

Edwin Beard Budding: Budding obtained the idea of the lawn mower after seeing a machine in a local cloth mill which used a cutting cylinder mounted on a bench to trim cloth to make a smooth finish after weaving. Budding realized that a similar concept would enable the cutting of grass if the mechanism could be mounted in a wheeled frame to make the blades rotate close to the lawn's surface.[3]

Ms. Lanka Priyanka: In this paper they have fabricated grass cutting machine with tempered blades are attached to this grass cutter. This grass cutter is manually operated as well as automatic operated. The materials commonly used GI sheet, motor, wheel, Al sheet, switch, wire, square pipe and insulating material.[4]

5. CONCLUSION

In this present reality, all machines are planned fully intent on lessening or killing green house gas discharges which is the significant reasons for environment change. This sunlight based fueled grass shaper will address the difficulty of ecological creation and minimal expense of activity since there is no expense for fuelling. A sunlight based fueled solar grass cutter has been created for the utilization of homes, farms and foundations that have yards where farm hauler driven cutter couldn't be utilized. The machine's ability is sufficient for its motivation. The machine has ended up being a potential trade for the fuel controlled grass shaper. In the introduced paper gives the created data about the "Manufacture of Solar grass Cutting Machine" which was planned to such an extent that the sunlight based plate produces sun powered energy and using this energy for running the grass shaper. Incorporating elements of all the equipment parts utilized have been created in it.

6. REFERENCES

1. S.Balameenakshi, S.Sumathi, Biometric Recognition of Newborns: Identification using Footprints, Proceedings of 2013 IEEE International Conference on Information and Communication Technologies (ICT 2013), 737-742, Tamilnadu, India
2. Anil Jain, Karthik Nandakumar, Arun Ross, Score normalization in multimodal biometric systems, Pattern Recognition 38 (2005) 2270 – 228.
3. Y. M. Gaikwd, "Solar based Automatic Grass Cutter," Int. J. Sci. Technol. Eng., vol. 3, no. 07, pp. 87–89, 2017.
4. S. S. Dalal, V. S. Sonune, and D. B. Gawande, "Manufacturing of Solar Grass Cutter," Int. J. Res. Advent Technol., vol. Special Is, pp. 352–355, 2016