



Design and Fabrication of Automatic Solar Seed Sowing Machine

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Abstract

Most countries have a high growth rate in agriculture. The agriculture sector determines the economy of each country. The value of the economy depends on agriculture. Agriculture plays an important role in the development of each country. The agriculture sector is driving growth. Most people in India depend on agriculture. They give importance to agriculture. Many people use old technology for agriculture. Population increases in the future are likely to cause food shortages. To prevent this, agriculture needs to be developed. New technologies are welcome. The state should take over the agriculture sector. The state should take up agriculture. The agriculture sector needs to be developed so as not to cause loss to the farmers. Farmers should be given more concessions. New technologies should be introduced to agriculture. Introduction of automatic operating machinery. Solar powered machines should be introduced. The machine buys energy from the sun and converts it into energy. The machine sprinkles the seeds at specified intervals. Automatically pit. Once the seeds are sprayed, they will automatically cover the excavated area. All of these will work automatically. This reduces time and reduces cost. Increasing the savings. The need for human beings decreases. The agricultural sector is booming and the economy is booming. Increasing the value and growth of the economy.

Keywords: Agriculture, Solar Power, Automation, Sowing machine.

1. Introduction

The demand for agriculture is increasing in the future. This causes food shortages. It also requires more food. For that we need to increase agriculture. Farming using the existing tractor and bulls takes longer. Production is also low. Using a tractor requires more energy. This increases the demand for gasoline. Because of the use of tractor for agriculture. Too much pollution. This makes the air more polluting. The demand for humans in agriculture is very high. This results in higher costs. New technology must be introduced to reduce this. Hence the name Automatic Solar Seed Sowing Machine. This greatly reduces the demand for fuel. Can prevent air pollution. Reduces costs. This solar

works with solar energy. Using this solar energy will greatly reduce the need for gas in this machine operates automatically, reducing the need for humans. This greatly reduces costs. Agriculture is an important part of the Indian economy. The seeds should be left at the desired depth in the recess. Then cover it with soil. The seed that is sown for each crop varies. Because we use machines, its operation time and labour are saved. Increasing fuel demand for engines. This increases fuel costs. To reduce this, the engine should be powered by a solar panel. Must be turned on for automation. This reduces fuel demand. Reducing the cost of fuel. This machine can be named Solar Seed Sowing Machine. All machines and materials will be

powered by solar energy in the future. These are a safe and air-polluting process. This increases the value of the global economy. The solar panel should always be placed in direction towards the sky. The solar panel should be as vertical as the sunlight. The solar panel takes solar energy from the sun and converts it into energy. In the future, all systems in the world will be replaced with automation. The world will start to use the technological smart network. [1–3] The currently engineered machine will automatically spray the seeds and cover it with soil. Then it will automatically perform the action. Agriculture plays an important role in determining the value of each country economy. Agriculture is a major industry in many countries of the world. Agricultural lands are being destroyed. Many are selling farmland and building houses in it. Thus, agriculture is slowly decaying. Many people lose their agriculture and sell their farmland. So the government should take this step forward. Agricultural work must also be converted into a state service. The population will be much higher in the future. So there is a possibility of food shortages. If farmland is low, agriculture will decline and food shortages will occur. To avoid this, agricultural lands should be protected. Agriculture should be increased. Only then will the needs of the world people be met. No food shortage will occur. Agriculture is important for many countries. Some countries focus only on economic development rather than agriculture. Economic growth will only improve if agriculture rises. In some areas, damage to crops is caused by substandard agriculture. If agriculture is destroyed, the government will not be able to provide its people with enough food. The economic growth of the country will be severely affected. All that needs to be changed is automation to increase agriculture. We need to design new technology machines. They need to be automated and they should be cheaper. Only then can all farmers use it. That engine should not cause any contamination. need not fuel. For that you need to design a machine that can use solar energy using a solar panel. In some areas, damage to crops is caused by substandard agriculture. If agriculture is destroyed, the government will not be able to provide enough food for its people. The country will be severely affected by its economic growth. All that needs to change is automation to increase agriculture. We need to design new technology

machines. They are automated to need. And they should be cheaper. Only then can all farmers use it. That engine should not cause any contamination. need not fuel. For a solar panel using solar energy, you can use a solar panel. [2–4]

2. Literature Review

The demand for humans in agriculture is very high. This results in higher costs. New technology must be introduced to reduce this. Hence the name Automatic Solar Seed Sowing Machine. This greatly reduces the demand for fuel. Can prevent air pollution. Reduces costs. This solar works with solar energy. Using this technology will greatly reduce the need for gas line. This machine operates automatically, reducing the need for humans. This greatly reduces costs. Agriculture has been the backbone of the Indian economy and it will continue to remain so for a long time. It has to support almost 17 percent of world population from 2.3 percent of world 137 percent has registered an increase of only 26 percent since 1950-51. The net sown area is 142. The basic objective of sowing operation is to put the seed and fertilizer in rows at desired depth and spacing, cover the seeds with soil and provide proper compaction over the seed. The recommended row to row spacing, seed rate, seed to seed spacing and depth of seed placement vary from crop to crop and for different agricultural and climatic conditions to achieve optimum yields and an efficient sowing machine should attempt to full fill these requirements. In addition, saving in cost of operation time, labour and energy are other advantages to be derived from use of improved machinery for such operations. A traditional method of seed sowing has many disadvantages. This paper is about the different types of methods of seed sowing and fertilizer placement in the soil. And developing a multifunctional seed sowing machine which can perform simultaneous operations. For a long time, it has been thought that atomic energy would be a solution for the growing energy problem, but in recent times solar energy has proved to be an efficient, more secure and safe way of providing energy. Concepts related to the solar energy have constantly been under heavy research and development. The basic objective is to optimize the energy produced from photovoltaic cells, by making the overall systems

more efficient and cost effective. Most solar panels are statically aligned; they have a fixed position at a certain angle towards the sky. Therefore, the time and intensity of direct sunlight falling upon the solar panel is greatly reduced, resulting in low power output from the photovoltaic (PV) cells. Solar tracking system is the solution to this issue as it plays a major role in overall solar energy optimization. Agriculture is an important part of the Indian economy. The seeds should be left at the desired depth in the recess. Then cover it with soil. The ruling that is sown for each crop varies. Because we use machines, its operation time and labour are saved. Increasing fuel demand for engines. This increases fuel costs. To reduce this, the engine should be powered by a solar panel. Must be turned on for automation. This reduces fuel demand. Reducing the cost of fuel. This machine can be named as Automatic Solar Seed Sewing Machine. All machines and materials will be powered by solar energy in the future. These are a safe and air-polluting process. This increases the value of the global economy.

3. Working Principle

The machine uses solar panels to convert solar energy into electrical energy. The energy from the sun is converted into electrical energy and goes into all parts of the engine. This machine can be programmed automatically by the program. The energy from the sun is converted into electrical energy in the battery. This electrolyte is converted into mechanical energy when operating the engine. That power is delivered to the electric motor. Thus the electric motor will start to run. Thus all the components will start functioning. The front of the machine is fitted with a separate ticketing system for excavation. This allows the machine to dive automatically at specified intervals as it progresses. After that, the seeds are automatically placed in the pits. All of these will work at specific intervals. The hopper will be seeded before the machine runs. Seeds from the hopper are placed in pits at specific intervals. Then there will be a system on the back of the machine to fill the pits. The system closes the pits to move the machine forward. It then automatically changes direction when it reaches a certain distance. All of this works through the program. Using it reduces time. The cost is also

reduced. Man need is decreasing and yields are increasing. There by increasing the savings. There is no fuel cost and no air pollution

3.1 Solar Pannel

Solar Panel converts sun rays Energy into Electricity by absorbing the Sunrise. the sun rays is the source of energy for generating electrical energy.



Fig.1. Solar Pannel

3.2. Charging Unit

This charging unit stores the power received from the sun rays itself. These are the 9v charging unit. This gives the machine the required amount of power. when the machine is running

3.3 Driver

The driver unit gets a signal from the microcontroller and amplifies it. Thus they gain a higher voltage. These are the voltage Converter. that is suitable for the machine. this will prevent the machine from becoming a damage

3.4 Led Bulb

This LED bulb is used for indication. They are used to notify the machine if there is any Error in it. this is also an indication of whether the machine is working properly. These help to detect disorders in the machine. They work even though the machine is running.



Fig.2. LED Bulb

3.5 Resistor

This resistor will prevent excessive voltage and reduce it. This high-voltage machine is likely to be damage. This resistor reduces the high voltage and gives the right amount of voltage



Fig.3. Resister

3.6. Terminals

The Terminal are used to send commands from one to another system. These are the so-called Commands Line

3.7 Gear Box

This gearbox reduces the speed of the motor and increases its torque. This leads to a decrease in speed and the torque and the pulling Power is increased. This gearbox will be combined with the motor.

3.8 Microcontroller

This microcontroller is like a small computer. Within this will be a memory card. You can save the program in this. This microcontroller controls the machine by signal

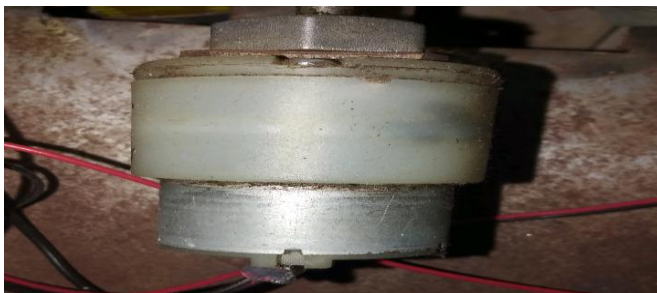


Fig.4.Gear box

3.9 Rack and Pinion

This rack and pinion changes rotary motion convert to linear motion. this rack and pinion coincide with the circular-gear teeth



Fig.5. Rack and Pininon

3.10 Regulator

This regulator means that the voltage divides it to the right size. This makes the machine run with the right voltage. The regulator gives the right amount of voltage separation to all parts

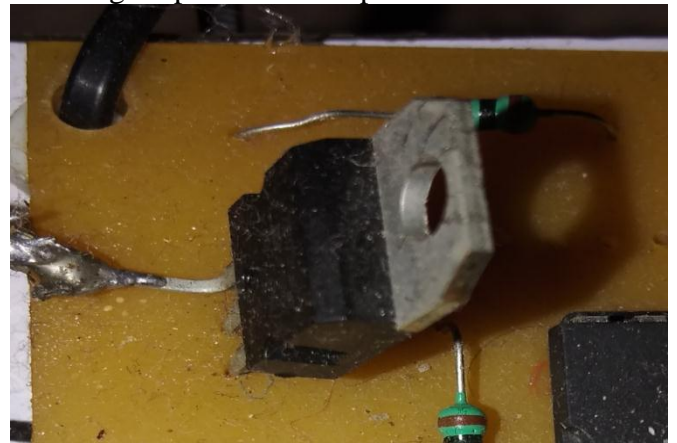


Fig.6.Regulator

3.11 Digger

This digger is joined with rack and pinion. Rack and pinion operate through the motor. Rack and pinion it will go further and down. The digger attached to it goes further and down along with it. When this digger goes down, dig the soil. This is due to the formation of a pit and the seeds are planted there.



Fig.7.Digger

Conclusion:

Machinery with new technology plays an important role in agriculture. This will reduce the demand for a lot of workers and reduces the demand for fuel. The machine automatically performs multiple tasks at once it will minimize the duration. By introducing this in the future will improve India economic growth.

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