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### AUTOMATIC POTATO CHIPS MAKING MACHINE

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#### ABSTRACT

For the processing of potatoes chips, removal of the peel is an important unit operation for major quantity of foods (potatoes). Hence machine operated integrated potato slicer was developed. The main parts of the machine were slicing unit, rotating plate, electric motor, stationary plate, pressure plate etc. The machine is run with the help of small electric motor and attached with speed control unit. The main purpose of the machine is to reduce time and to improve productivity. The project is portable and consumes less floor area.

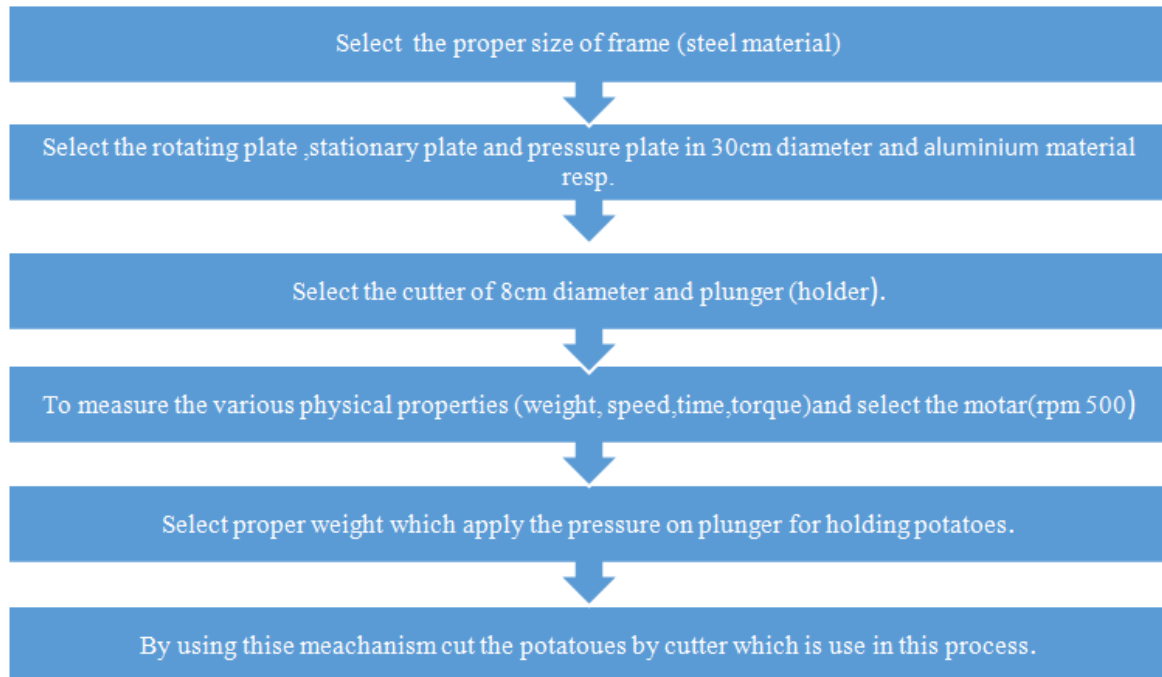
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#### INTRODUCTION

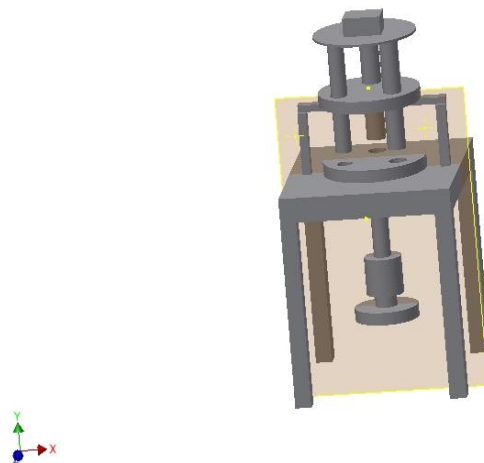
The king of the vegetable Potato contains about 20% dry matter is a starchy and 80% water, which is having semi perishable in nature. Due to dry matter and proteins contain in it, is considered as nutritional vegetable. It is cultivated in 23 states in India. During 1993-2020, demand for potato is expected to rise by 40 per cent worldwide [1]. Due to this the prospects related with it can capture the huge domestic as well as international market. Processing of potato is very advantageous because it makes storage easier due to the reduction in bulkiness and due to increase in its shelf life. It adds value to potatoes and therefore gives better return. Subsequently processing has been an integral part of the utilization. The production of potatoes in India was 40,476.30 thousand metric tonnes in 2010-2011 from a total area of 1893.90 thousand hectare. Potato is the only crop that can make an impact on the highly populated Indian nation for feeding the people. India ranks fourth in area and third in global potato production. It intended to perform. In the previous method (manual cutting), process is tedious and time consuming, while in the later method, equipment's save cutting time but the cost of these equipment's, the energy required for their operation & their large size makes them insignificant produces around 8 % of the world's total produce [2]. In any of the cases, the machine consists of a knife or set of knives arranged in a particular pattern to meet the need of the operations it is for their use in small scale industries. Improved processing requires use of tools and techniques that are reliable, efficient, labor saving, safe, simple, and cost effective. in potato system.

#### OBJECTIVE

Techniques that are reliable, efficient, labour saving, safe, simple, and cost effective. The potato slicing machine is simple workable and efficient machine, which can be adopted to reduce mechanical energy input in potato processing and also to improve product quality. The potato of size 2 to 3cm cut by the slicing wheel operated by man power when the force is applied on the potato. The mechanism should be cost effective and less space storage device, which can cut the potatoes at medium scale production rate, for the chips manufacturer, with the help of electrically operated system. Machine is run with the help of small electric motor and attached with speed control unit. The main purpose of the machine is to reduce time and to improve productivity. The project is portable and consumes less floor area. The simplest mode of processing the potato is conversion into chips. Potato slicing machines are manually also electrically powered. Improved processing requires use of tools and techniques that are reliable, efficient, labor saving, safe, simple, and cost effective in potato system.



**DIAGRAM**



*Fig. schematic of Automatic chips making machine*



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## MATERIAL SPECIFICATION

*Table no 1 : Material Specification*

-Name of Component	Specification	Quantity
1) Frame (Steel material)	Size=60x60x80	1
2) Motor	500 rpm	1
3) Rotating plate (Aluminums)	Φ30cm	1
4) Stationary plate (Aluminums)	Φ30cm	1
5) Pressure plate (Aluminums)	Φ30cm	1
6) Slicing unit	--	3
7) Holder	--	3

## RESULTS AND DISCUSSION

Techniques that reliable, efficient, labor saving, safe, simple, and cost effective. The potato slicing machine is simple workable and efficient machine, which can be adopted to reduce mechanical energy input in potato processing and also to improve product quality. The potato of size 2 to 3cm cut by the slicing wheel operated by man power when the force is applied on the potato. The mechanism should be cost effective and less space storage device, which can cut the potatoes at medium scale production rate, for the chips manufacturer, with the help of electrically operated system.

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