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DESIGN AND FABRICATION OF CROP CUTTING MACHINE

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Abstract: *The design and fabrication of multi crop cutter. The crop cutting is important stage in agriculture field. Currently in India former used conventional method for crop cutting i.e. the conventional method for crop cutting is as manually cutting using labor but this method is lengthy and time consuming. This project aim is to design and analysis of small field crop cutter machine for small height and small steam crop. It helps to reduce farmers effort and to increase rate of cutting crop. The machine consist of different mechanisms are used in this machine. When compare to manual crop cutting by using this machine has a capacity to cut the crop in faster rate. This machine is helpful for both the small as well as big farm. This machine is used by poor farmers which are not capable to buy Harvester machine, Ripper binder machine, etc. because of high cost.*

Keywords: *Agricultural field, Reduce formers efforts.*

I INTRODUCTION

Agriculture is the backbone of India. In India agriculture has facing serious challenges like scarcity of agricultural labor, in peak working seasons but also in normal time. This is mainly for increased nonfarm job opportunities having higher wage, migration of labor force to cities and low status of agricultural labors in the society. In India two type of crop cutting like as manual method (conventional method) and mechanized type of crop cutter. The crop cutting is important stage in agriculture field. Currently Indian former used conventional method for crop cutting i.e. cutting crop manually using labour but this method is very lengthy and time consuming. To design and fabrication of multi crop cutter machine which is help to the Indian former which is in ruler side and small farm. It will reduce the cost of crop cutting in field. It will help to increase economical standard in Indian former. Agriculture forms the backbone of our country economy; about 55% of citizen is depending on agriculture. Thus developing our country means providing our farmers with more “Sophisticated” and “Advanced Tool

which would decreases overall time required for the task and the task will become more easy and convenient. Crop harvesting is last stage in farming which takes maximum time of farmer among all farming process. In India harvesting is generally done manually. Thus our intention is to provide farmer a “DESIGN AND FABRICATION OF CROP CUTTING MACHINE”. This machine consists of simple mechanism make to run by an engine OR gear which will be economical to farmer and will take less time for harvesting operation. Crop harvesting is a process of cutting the crops closed to the ground or pulling the plants when they are ripped out. It include cutting the stems of coral crops like tuar, Jawar, Bajra, Maize etc. closed to the ground. in our country it is generally done by sharp sickle. On the basis of this large number of crop harvester are in use at today’s date, which are available at different shape and size and on different power supply. Some of them are pneumatic crop harvester, hydraulic crops harvester and crop harvester running on tractor engine. Since they are costlier keeping in to consideration the economic ability of our farmer it is required that is should be simple and should fulfill the same

intention which are achieved by DESIGN AND FABRICATION OF CROP CUTTING MACHINE”.

II PROBLEM STATEMENT:

This project aim is to design and analysis of small field crop cutter machine for small height and small steam crop. It helps to reduce farmer’s effort and to increase rate of cutting crop. The machine consist of different mechanisms are used in this machine. When compare to manual crop cutting by using this machine has a capacity to cut the crop in faster rate. This machine is helpful for both the small as well as big farm.

Concept:

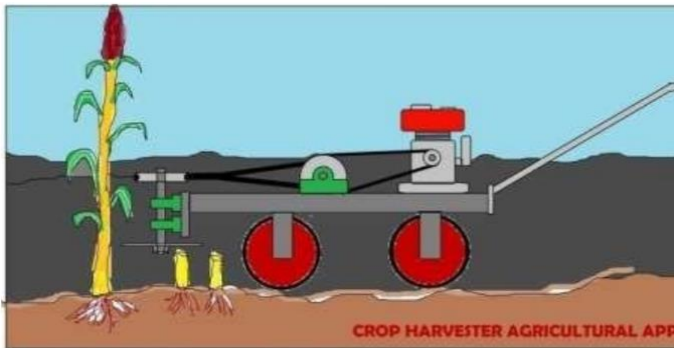


Fig .Working of crop harvester (Side view)

III WORKING PRINCIPLE

The machine is used for cutting stems of the cereal crops. The machine is operated with help of the manual power. Machine has 2 shaft that are driven by the rear wheel, when machine gets started shaft on rear wheel is rotated and since it is coupled with the successive vertical shaft by pulley arrangement , the shaft also rotates. The crank lever arrangement set up between blade and shaft and thus blades will move reciprocate. The speed of cutter is varying with the help of speed of the cutter machine (Pushing speed) for which handle provided on the Chassis. Then we grip the machine handle and take the Cutter Machine into the actual field of crops where we want to cut the cereal stem then we select a row of crop stems and machine move on this row. After cutting of stems they are taken by worker and are separated from the field. So our machine is fully manual due to that we can adjust the cutting feed of the machine manually.

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