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COCONUT CUTTER AND WATER EXTRACTION MACHINE

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ABSTRACT

Compared to previous methods of coconut cutting, it needed less upkeep. All that has to be done is to make sure the blades are sharp. This essay will provide you a quick notion about how to create a new machine using these tools. The growers now sell their coconut water for a fair price because to the processed green coconut water's greater availability. The goal of the current experiment was to develop a method of preserving green coconut water that would be portable and more widely available. The coconut (Cocos nucifera L.) is grown by producers for its soft jelly and water-filled kernel; consumers enjoy the nutritional and health advantages of both. The water and kernel are renowned for treating stomach ulcers, sore throats and building the muscles of lean and malnourished people. Coconuts are beneficial for those with renal disease and diabetes. The objective, operation, benefits, and uses of the novel device known as the "Automated Coconut Chopper" are explained in the article. This machine's primary goal was to automate a farmer's or laborer's task of cutting green coconuts in order to drink the water inside of them. It was also built with two key considerations in mind: cost and safety.

INTRODUCTION

The has an extremely long life. Only after a specific amount of regular cutting of coconut are cutting blades necessary to be changed. Compared to previous methods of coconut cutting, it needed less upkeep. All that has to be done is to make sure the blades are sharp.

Numerous coconut trees are grown in India, and a variety of coconut products are consumed there. One of the most popular coconut products is the fluid found within the coconut. A trained labourer is often used to chop the coconut.

This gadget aids in overcoming or substituting this activity when the labor/farmers eventually disappear. Coastal regions of Kerala, Tamil Nadu, Karnataka, Andhra Pradesh, Orissa, West Bengal, Pondicherry, Maharashtra, and the islands of Lakshadweep and Andaman & Nicobar are where coconut is mostly grown in India. At one point, 899,198 hectares were supposedly under cultivation, and by the late 1970s, it represented almost 68% of India's entire production. Currently, Kerala produces around 45% of all the coconuts consumed in India, with the southern Indian states and Kerala's neighbour accounting for over 92% of the total output.

The need for time is growing, and there is a shortage of competent personnel, which is leading to a wide variety of development in the field of automation and autonomous equipment. We created an automated machine to simplify or automate a daily regular operation.

"Coconut Cutting And Water Extraction Machine" combines several fundamental mechanical mechanisms but solely uses cleaning agents.

This machine's primary goal is to decrease intermediary work by making "Green coconut" immediately available for consumption.

LITERATURES SURVEY

1. By employing this way of cutting coconuts, time is saved over the traditional or manual approach, which takes a long time.
2. The literature review revealed that the efficiency of the machine was higher than that of the traditional method for cutting coconuts.
3. This machine requires minimal maintenance.
4. The motor, gearbox, belt drive, c type channel, iron strips, nut-bolt, and flange are the components utilised in the machine.

SPECIFICATIO

Table of Components and specification

Components	Specification
Motor	1 HP
Gearbox	Rpm reducing gear box
Pulley	22cm diameter
Belt	B45
Iron flange	16 cm
c-channels	127mm
Angles	Iron V-shape angles
Connecting rod 1	Unequal shape road made from iron sheet
Connecting rod 2	strait iron strip
Cutter blead	Made up of MS

5. This may be modified in the future so that sensors are used to make it more beneficial for everyone.

METHODOLOGY

The experimental setup for our research consists of an L-shaped frame on which a motor is attached at one end. A gearbox is then mounted, which lowers the motor's rpm, and the gearbox and motor are connected by a belt drive. The connecting road is attached to the iron flange following the gear box and fastened to the other gear box shaft that rotates in a circular fashion. This road turns the rotational motion into auscultation..and that's why the blead works and moves up and down and cuts the coconut .We can drink it

PROBLEM DEFINITION

Due to the previous way of chopping coconuts with a knife, there was a significant risk of cutting hands or fingers, making it unsafe. The procedure takes a lot of time, which decreased production. Thanks to this machine, we can save time while increasing productivity. With the traditional approach, a person had to cut coconuts by hand, wasting a lot of energy. With this machine, we can conserve energy. In the past, we were unable to cut a coconut with a single click, but with this machine, we can do it.

OBJECTIVES

1To make the process of chopping coconuts quick and simple

2. to boost employees' productivity

3To speed up the process of chopping coconuts and extracting their water

4.To reduce the waste of time

DESIGN

Compared to other coconut cutters, the design of this one is quite small.

IMAGES OF PROJECT

COMPONENTS USED

1. 1HP :- AC Motor
2. Pulleys
3. C-channels
4. V-shape angles
5. Metal sheet
6. Belt drive
7. Cutter blade

APPLICATIONS

1 For more easily chopping a coconut.

2. for efficiently chopping a coconut.

3. Cutting a coconut poses no risk to humans, or at least lessens the likelihood that one could.

CONCLUSION

With the use of several equipment, such as a cutting blade and a hole-making tool, this machine is primarily made to cut and make holes in coconuts. The main benefit of this machine is that it shortens the time required to cut a coconut. These machines may also be used to cut out various fruits in addition to coconuts.

There is no additional attachment needed to accomplish the two processes, which may be done concurrently. The produced machine is relatively inexpensive.It will increase the efficiency of chopping coconuts across all sectors, creating a variety of new employment in the process.

REFERENCES

1.https://www.researchgate.net/publication/309024629_Automated_Coconut_Chopping_Machine/link/57fe476308ae6b2da3c88aa6/download

2. A Textbook of Manufacturing Technology (**R.K. Rajput**)

3. Fabrication of husk remover with shell cutter" **by Nagarajan.N1 and Sundararajan. P.N 2.**

4. Design and development of semiautomatic cutting machine for young coconuts" **Mj. Int. J. Sci. Tech. 2008, 1(Special Issue), 1-6.**