UNIVERSITI TEKNOLOGI MARA
CAWANGAN TERENGGANU

MEC299

MANUAL SPIKEY ROLLER COCONUT HUSK PEELER

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ABSTRACT

There are many ways to removed coconut husk. One of the most common ways to removed them is the traditional way which by using a machete or a crowbar. This type of tools requires a lot of effort and energy because it use a lot of swinging process. Not to mention, it may also bring harm to the user like getting wounded by the sharp blade. There should be many coconuts husk peeler machine available across the market but usually there are pricier especially the automatic one. This coconut husk machine is made to reduce the cost of coconut husk peeler machine so that it can be reached by the target market. Therefore, the objective of this project is to fabricate a manual coconut husk peeler machine that is as efficient as the automatic one but with a cheaper price than the market price by fabrication method. This peeler will be equipped with two stainless steel spikey roller that rotated in opposite way to tear the coconut husk. This material is durable, affordable and powerful enough to unhusk the coconut. The method used in this project is the Verein Deutsche Inginieuer 2222 method (VDI 2222). Furthermore, the mechanism used are a gear for the roller to function. In the future, this machine will give benefit to many users.

TABLE OF CONTENTS

CHAPTER 1
INTRODUCTION

1.0 Background of Study

Coconut is frequently used in Malaysia since its component has numerous health benefits. One of the most frequently used methods was to extracting the coconut milk from the coconut. To extract it, the coconut must first be de-husked. Traditionally, it was unhusked with tools like a machete or a spike, but because these methods required a lot of labor skill and were exhausting to use, many people began to design and manufacture a coconut husk peeling machine to solve the problem. However, most of the current machines on the market are rather expensive and require a significant amount of money to operate because they consume a lot of electricity.

For this reason, the designed project is proposed to overcome the stated problem by designing and developing a manual coconut husk peeler machine. This machine is designed to unhusk one average-weight coconut at a time. Woods and steels such as alloy steel and stainless steel are examples of materials that can be used. The frame, roller spike, gear, and handle would be the most important parts of this project. The structure must be strong enough to support the weight of the coconut and the roller spike. Furthermore, the roller spike material must be hard enough in order to separate the husk from the coconut.

1.1 Problem Statement

There are several types of coconut husk machine that has similar design like this designed project but each of them has different advantages and disadvantages. The coconut husk peeler machine that was already in the market requires a lot of money and electricity to operate it. Furthermore, the manual one requires a lot of swinging force and energy to unhusked the coconut. By using this manual spikey roller coconut husk peeler, the user can operate this machine comfortably and requires lesser money to operate it.

1.2 Objectives

The main objectives of this project are:

1. To propose and design a coconut husk peeler design using Solid works software.

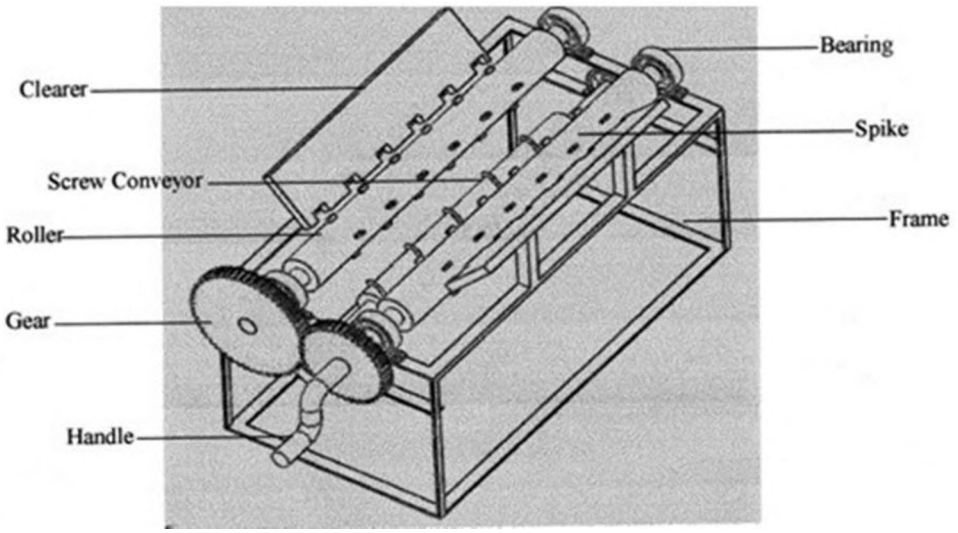
2. To fabricate a coconut husk peeler machine with an affordable price.

1.3 Scope of Work

The scope of work for this designed project is:

1. The product must be easy for user to operate.
2. Estimate the product cost.
3. The fabrication process includes cutting, assembling and welding.
4. The designed process used are Solid works application.
5. This product is to be used by all kinds of group and individual user.

1.4 Expected Results



(Figure 1.1 Picture of the expected result of manual coconut husk peeler machine, Nwankwojike Bethrad Nduka, 2012)