K. D. K. COLLEGE OF ENGINEERING, NAGPUR

DEPARTMENT OF MECHANICAL ENGINEERING

Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur

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CERTIFICATE

This is certify that, the Project entitled **DESIGN AND DEVELOPMENT OF BAMBOO STRIPPING MACHINE** is a bonafied work done under my guidance and is submitted by **Sufiyan Ahmed Khan** to Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur for the partial fulfillment of requirement for the award of Post Graduation degree, **Master of Technology (M. Tech.)** in **Mechanical Engineering Design (MED)**.

P. G. Mehar
Asst.Prof.
Co-Guide

Dr. A. V. Vanalkar
Professor,
Guide

Dr. C. C. Handa
Head of Department
Professor & Head
Deptt. of Mech. Engg.
K.D.K. College of Engg., Nagpur

Dr. D. P. Singh
Principal
K.D.K. Engg. College
NAGPUR.

ABSTRACT

Chapter 1 is 'Introduction' in these chapter bamboo technologies, its applications and uses, importance of bamboo, facts regarding bamboo, drawbacks of bamboo, the structure of bamboo in relation to its properties and utilization has been discussed.

Chapter 2 is Literature review, in this chapter articles have been reviewed relevant to bamboo processing machine, mechanical properties of bamboo, types of bamboos, uses of bamboo, variety of tools for bamboo processing.

Chapter 3 is Problem Identification and Formulation of Problem, in this chapter, the information gathered in Literature review is processed and the salient findings and short comings are first illustrated. Considering these aspects, how the problem of present work is formulated is explained.

Chapter 4 is 'Concept' in this chapter, a brief concept regarding the idea behind the project is discussed.

Chapter 5 is Design Calculations of Important Parts of Bamboo Stripping Machine.

Chapter 6 is Experimentation and calculation of forces, in this Chapter minimum pressure required for Stripping is calculated.

Chapter 7 is Analysis of Stresses in Bamboo Stripping Machine by ANSYS which gives Details of ANSYS and results were discussed.

Chapter 8 is Result and Discussion.

Chapter 8 is Conclusion and Scope of Further work.

9.0 CONCLUSION AND SCOPE OF FURTHER WORK

The minimum pressure at which the Bamboo cuts into strips is around 4 bar (depends upon the type of bamboo selected). This minimum pressure is obtained after several experimental results. These strips can be further cut into small diameter sticks required to make incense sticks. Here the length of strips cutting out from the machine is limited to 15cm only and one bamboo can place at a time. This limitation can be overcome by further modification in the machine by making such arrangement that more than one bamboo can be place at a time and length of C clamp can also be increase.

The present research has been done on bamboo stripping machine only which can reduce the time and effort for producing processed bamboo, as we know that at least four to five operations are required for producing incense sticks out of which, in this research efforts have been made to directly obtain the strips from the bamboo means there is no need of splitting the bamboo. Arrangement for vertical blades can also be done inorder to divide strips into sticks, and further automation can also be done on this machine.