UNIVERSITI TEKNOLOGI MARA

DEVELOPMENT OF FLOOR SIEVING MACHINE

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Dissertation submitted in partial fulfillment
of the requirements for the degree of
Diploma
(Mechanical Engineering)

College of Engineering

Feb 2024

ABSTRACT

A mechanical tool called a flour sieving machine can be used to sifts and separates flour particles of various sizes. When sieving flour by hand, we might notice that the flour's texture isn't consistent. This happens because of how much pressure use, the type of sieve we have, and the technique. Manual sieving relies on human factors, so the flour get might have different-sized particles. The goal of this project is to design and build a flour sieve device that can enhance the uniformity and quality of flour-based goods. The problem statement in this project is the cleanliness, the difficult in achieving accurate particle separation and the cost of modern sieving machine in market. The main objectives of this project are to design a flour sieving machine using SolidWorks and to fabricate the designed flour sieving machine as a proof of concept. The method used in this project for fabrication is cutting, drilling, and welding. The result for this project is little bit different from the drawing in the SolidWorks. In conclusion, this project has achieved the objectives of the project and give a huge benefit to individual, society and country.

ACKNOWLEDGEMENT

Firstly, I wish to thank God for giving me the opportunity to embark on my diploma and for completing this long and challenging journey successfully. My gratitude and thanks go to my supervisor, Dr. Wan Muhammad Syahmi Bin Wan Fauzi.

Finally, this dissertation is dedicated to my father and mother for the vision and determination to educate me. This piece of victory is dedicated to both of you. Alhamdulilah.

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CHAPTER ONE
INTRODUCTION

1.1 Background of Study

Flour sieving machine is a mechanical tool used to separate and remove lumps, impurities, and foreign particles from flour is a flour sieving machine, sometimes referred to as a flour sifter or flour screening machine. To accomplish particle separation and guarantee the flour's purity and homogeneity for use in baking and food processing, it is particularly made for these applications [1]. In most cases, the machine consists of a sieve or mesh screen through which the flour is passed, enabling smaller particles to pass through while bigger particles, impurities, or clumps are held and eliminated.

The issues related to this project is when use sifter manually. With some flour sifters, achieving consistent and uniform particle separation can be difficult. Unequal sieving during the sifting process can be caused by unequal pressure or agitation, which will affect the texture of the flour or the finished baked items. The quality of the materials and construction can have an impact on a flour sifter's durability. Cheaper or lower-quality sifters could be more prone to wear and tear, which might impair their performance and lifespan. Examples include mesh screen breakage, handle malfunction, and sifter structural deformation.

There are currently a lot of existing designs that can be enhanced. This idea for this project, which is referred to as an automatic, came from a design that is now available on the market. This mainly of this project is to create a flour sieving machine that is simple to use and produces less lumpy flour at reasonable cost.

The aim of this project is to increase baking outcomes, boost flour quality, and guarantee uniform particle size distribution in the flour. Additionally, it is to provide bakers who operate small business with a tool that will facilitate their work. This project’s design was motivated by the sand filter and separation from the research. The purpose of the research is to enhance the original design that was planned.