

UNIVERSITI TEKNOLOGI MARA

DESIGN AND FABRICATION OF CAN CRUSHER

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ABSTRACT

Can crushers are products that are widely used in a variety of industries to crush aluminum cans. This is because the recycling industry values the economy and the clean-up of the environment, so can crushers are beneficial to both the community and the industry. The main objective of this final year project is to build a convenient Can Crusher machine to minimize scrap volume and make reusable easier to transport to recycling facilities. Moreover, these days an enormous number of cans are being used in factories, restaurants and other businesses that need a large capacity of space to store these cans and to dump it. This paper research paper includes the design and analysis of the Can Crusher. This project involves process like design and fabrication. Even though there are many kinds of can crusher machine in the market, the completion of the new model offers more convenient and practical use than others.

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TABLE OF CONTENTS

	Page
CONFIRMATION BY SUPERVISOR	ii
AUTHOR'S DECLARATION	iii
ABSTRACT	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	viii
LIST OF FIGURES	ix
LIST OF ABBREVIATIONS	xi
CHAPTER ONE : INTRODUCTION	1
1.1 Background of Study	1
1.2 Problem Statement	2
1.3 Objectives	2
1.4 Scope of Study	2
1.5 Significance of Study	3
CHAPTER TWO : LITERATURE REVIEW	4
2.1 Benchmarking/Comparison with Available Products	4
2.2 Review of Related Manufacturing Process	6
2.3 Patent and Intellectual Properties	7
2.4 Summary of Literature	9
CHAPTER THREE : METHODOLOGY	11
3.1 Overall Process Flow	11
3.2 Detail Drawing	13
3.3 Engineering Calculation and Analysis	20
3.4 Bill of Materials and Costing	26
3.5 Fabrication Process	27

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Effective waste management solutions are critical in a world where environmental sustainability is becoming more and more important. The creation of a can crusher is one such option.[3] By developing a tool that can efficiently crush and recycle aluminum and tin cans, this research seeks to alleviate the problems caused by the buildup of these materials in landfills.[1]

Products called Can Crushers are often or commonly used in several sectors to smash aluminum cans.[2] This is because crushing of cans plays a significant role in economy and helps the society to keep the environment clean. This shows that can crusher products not only for the industry but also for the benefit of community. There are many different types, sizes, and speeds of can crushing machines available, so there's a model for everyone, from the heavy soda drinker to the recycling Centre employee.[6] These cans are more difficult to store, which adds to the overall amount of rubbish.[7] A Can crusher is an efficient, space saving and easy way to minimize aluminum waste while carry out our recycling duty.[4]

In this project, designing and fabricating a manually Can Crusher product will be conducted. For the designing process, a good mechanical performance Can Crusher product will be developed so that there is no doubt about the design and idea. This product will be operated on using the force of the leg. But for sure that functionality should be the very top priority. It means that the can crusher should have a hole for the crush can drop into plastic garbage. Careful research has been done on the design of the product in the market and comparing it so that a good and unique product can be developed. This project also focusses on the selection of good quality and reasonable prices materials. For example, a lightweight and durable material can make the product more improve in terms of its functionality.[5] To make this project, a lot of skills in mechanical engineering are required which are welding process, bending machine, and shearing machine.[1] Overall, the ultimate aim of the project is to develop a can crusher