

UNIVERSITI TEKNOLOGI MARA

ELECTRIC CAN CRUSHER

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ABSTRACT

This project is concerned with the making and improvement of an electric can crusher appropriated for ecological projects. Alongside surging environmental problems and the need to apply environment-friendly waste management methods, the emergency of recycling systems that can work at maximum efficiency is outmost. The crushing of beverage cans by hand is a tedious and laborious task that only the most dedicated can collectors manage, therefore reducing the recycling capacity. Hence, there is a necessity for assemble systems that can minimize the can crushing act. Thus, the recycling throughput can also be maximized. EEC will be using the power devices to achieve the process automation of aluminium cans crushing. The features may include a motor operated mechanism for crushing cans, a detector for can detection as well as their position and a control system for managing the crushing process. Calling on safety considerations as well, the appropriate gear will be implemented to ensure users' security and tools' reliability.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

The practice of recycling, which's, at the core of environmental efforts reflects the values of sustainability and efficient resource use. As waste levels increase and resources decrease recycling provides a solution by diverting materials from the traditional "take make dispose" approach. Whether looking at reuse methods or day industrial recycling processes this practice helps reduce environmental harm save resources and support economic stability. However achieving these benefits requires an effort involving education, policies and innovative approaches. In the face of challenges recycling not offers a solution but also represents a moral obligation that can shape a more sustainable future, for upcoming generations. The national recycling rate has been increasing every year, starting from only 15.7% in 2015 to 31.52% in 2021, 33.17% in 2022 and hitting 35.38% this year. Moving forward, this trend is anticipated to continue. One of the things that people always recycle is aluminum cans. Can recycling is a vital practice with far-reaching environmental, economic, and social benefits. Aluminum cans, infinitely recyclable, offer a sustainable solution to waste management and resource conservation. By diverting cans from landfills, recycling reduces greenhouse gas emissions and conserves energy. The use of can crusher machines is crucial in the recycling process as they compress aluminum cans for transportation and processing. However, there are issues that need attention to improve their efficiency. Many existing can crusher machines face challenges such, as processing speeds and limited capacity impacting recycling operations by causing delays and reducing output. Enhancing the effectiveness of can crusher machines vital to increase recycling efficiency and optimize waste management procedures. An initiative called Electric Can Crusher aims to increase the recycling of aluminum cans' efficiency. An entirely automated can crusher machine, which runs without the need for human energy, is a revolutionary development in recycling technology. It maximizes resource usage, 1 increases productivity, and streamlines operations by automating repetitive procedures and doing away with manual handling. In addition to increasing productivity in recycling