UNIVERSITI TEKNOLOGI MARA

DESIGN, ANALYSIS, AND FABRICATION OF DRAIN CLEANER

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ABSTRACT

A good drainage system is one of the important needs for any country that have the possibility to be flooded and Malaysia is a good example for that statement. While all the industry in the world is improving, there are no machine that simply for the cleaning of small and medium sized drains. The people who work to clean drains uses their hands or even bottles that have been cut to clean the drains. This project aims to design and fabricate a drain cleaner that does not need the user to make direct contact with all types of waste in the drains and preserve the user energy at the same time. The selection process will be made to choose the most suitable design for the product. After that the design will be made into isometric view using SOLIDWORK 2020. The designed product will work fully in mechanical and will consist of simple fabrication as a proof of concept. Having this product will assist the user to clean drains without getting their hands dirty. As a result, the product can run within expectation and achieve the objective.

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INTRODUCTION

1.1 Background of Study

Nowadays, many industrial technologies have developed to a very futuristic phase. However, the proper disposal of sewages from industries and commercials are still a challenging task. The failure to properly deal with the wastes from there will lead to many huge problems to its surrounding. The first problem is when the wastes that are not biodegradable accumulated and clog the drains thus lead to flash floods.[4] Otherthan that, decaying wastes also attract pests and result in urban areas becomingunhealthy, dirty and unsightly places to reside in. Moreover, it also causes harm toterrestrial organisms, while also increasing the risk of spreading dangerous viruses. Inview of the factors above an improvement for the drainage system tools is badly needed.By using this product, the user can handle various types of waste without making directcontact and preserve the user's energy at the same time.

1.2 Problem Statement

According to some articles, the roads and bypasses in Malaysia can easily found in presence of dried leaves. After raining occur, all that will flow into the drain thus the drain will be filled with all the wastes stated.[3] After sometimes, it will only be natural for the drains to be clogged especially during heavy rain.

Other than that, there are also piles of rubbish and garbage that are not handled properly. That act of neglection of duty will fill the drains with stated waste. And it will bring more problems to the specific place because decaying wastes also attract pests and result in urban areas becoming unhealthy, dirty and unsightly places to reside in.[4]