UNIVERSITI TEKNOLOGI MARA

DEVELOPMENT OF A STYLER CLOSET

MUHAMMAD DANIAL HAIKAL BIN BAHARUDIN

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

College of Engineering

Feb 2024

ABSTRACT

Most of the people iron their cloth either for work, school or an event to remove the wrinkles on the surface of the cloth especially after the cloth were washed and dried. Washing, cleaning and ironing are the process that people used for centuries to wear the cloth again and again. These processes will take a lot of time and hours to be specific. From there, they combined those three processes into one which cleaning, drying and removing wrinkles by using steam. The purpose of this method is to save their time to prepare their cloth. As steam can clean and remove wrinkles at the same time. The project will be more focusing on household such as students and workers so that they do not need to use much time to prepare their uniform. My objective for this project is to design an ergonomic machine for household and to fabricate a low-cost and medium size machine to reduce the space needed to store the machine.

ACKNOWLEDGEMENT

Firstly, I wish to thank God for giving me the opportunity to embark on my diploma and for completing this challenging yet rewarding journey successfully. My gratitude and thanks go to my supervisor, Mr. Muhammad Amir Bin Mat Shah.

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

TABLE OF CONTENTS

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	X
СНАГ	PTER ONE : INTRODUCTION	1
1.1	Background of Study	⊥ 1
1.1	Problem Statement	2
1.2	Objectives	2
1.4	Scope of Study	3
1.5	Significance of Study	4
CHAPTER TWO : LITERATURE REVIEW		5
2.1	Benchmarking/Comparison with Available Products	5
2.2	Review of Related Manufacturing Process	7
2.3	Patent and Intellectual Properties	8
2.4	Summary of Literature	11
CHAPTER THREE : METHODOLOGY		12
3.1	Overall Process Flow	12
3.2	Detail Drawing	15
3.3	Engineering Calculation and Analysis	23
3.4	Bill of Materials and Costing	25
3.5	Fabrication Process	26

CHAPTER ONE INTRODUCTION

1.1 Background of Study

Nowadays, most of the people will iron their cloth to remove wrinkles. The first electric iron was invented by Henry Seely White on June 6, 1882 to remove wrinkles and unwanted creases from fabric. Electric iron is used by heating to a temperature between 180-220°C depending on the type and material contained in the fabric. Ironing works by loosening the bonds between the long-chain polymer molecules in the fibres of the material. When the molecules are heated, the fibre are straightened by the weight of the iron.

The society that frequently iron their cloth are consist of workers and students. Ironing cloth usually will take around 10-15 minutes just to remove the wrinkles on the fabric. The process of cleaning and drying will also take a lot of time for the cycle and it will take a lot work just to prepare a pair of cloth.

The current solution for this problem is to use a steam iron which will freshen up the cloth and remove wrinkles at the same time. The problem of this current solution is the user still need to move the iron around the surface of the cloth.

By combining those deodorizing, and ironing process, the styler closet for clothes can be developed and enhanced. The aim of this project is to develop an automatic clothes steam cleaner that will deodorize and remove any wrinkles on the clothes surface. The idea of clothes steam cleaner is for any household to save their money and times to prepare their clothes either the clothes is not so dirty after being wore or have been kept in the closet for a long time.