UNIVERSITI TEKNOLOGI MARA

AUTOMATED ADJUSTABLE PORTABLE BARBEQUE GRILL

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

College of Engineering

Feb 2023

ABSTRACT

A barbeque grill is a device that cooks food by applying heat from below. There are several varieties of grills, with most falling into one of three categories which are gas-fueled, charcoal or electric. There is debate over which method yields superior results. But some people need an energy to cook food by using this device because they need to light up the fire from charcoal. They also need to fan the charcoal to keep the emberso it can keep light up, this device also cannot bring anywhere. Besides that, some improvement features are added to reduce combustion time, safety, energy, and quality of grilling with ease of use. The objective I doing this project is to analyze and modified this device to reduce potential energy produced by human. In conclusion, I hope my project can help people solve the problem.

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, Sir Ahmad Faidzal Khodori.

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.

TABLE OF CONTENTS

CHAPTER ONE
INTRODUCTION

1.1 Background of Study

Barbecuing is normally a social occasion and is a safe activity. In Malaysia, under Environmental Quality Act 1974 [Act 127] Environmental Quality (Prescribed Activities) (Open Burning) Order 2000 stated that open burning from outdoor grills, barbeques, or fireplaces for the preparation of food which is not carried out at any peat soil area is allowed. Barbecuing is a great activity for bonding with family and friends. It is very popular event during leisure time. This prompts the idea to innovate a barbecue tool in this project.

A barbeque grill is a device that cook food by applying heat from below. Barbequing over charcoal grills is popular around the world. Every country has them own style of barbequing. It depends on the type of barbeque system. To that end, consumers are able to choose from a various type of charcoal grills that come in all shapes and sizes. Charcoal grills require approximately 30 minutes or more to heat the charcoal to a temperature suitable for safe and effective cooking (U.S. Patent No. 2008016897, 2008) [1].

The grill sales trend in Figure 1.1 shows demand for barbeque products is increasing over years. Charcoal grill still being used for barbequing purpose, on top of infrared grills, kamados, gas grills and pallet grills. Thus, in 2014 data shows that 15% retailers are still using charcoal/smoker as their barbeque system.

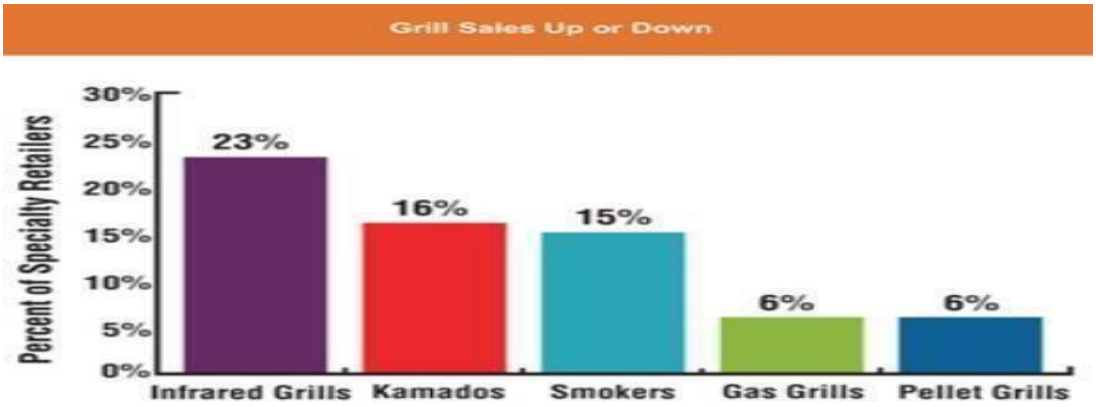

Figure 1.1: The Barbeque Grill Sales in United State 2014 (Wright, 2015)