

UNIVERSITI TEKNOLOGI MARA

**DEVELOPMENT OF A PROTOTYPE
EGG PEELER MACHINE**

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ABSTRACT

The purpose of this research has been to study hardness of boiled egg and temperature of boiled egg so that we could find the most efficient way to peel the hard-boiled eggs peeling of boiled eggs is very difficult task for cook or chief. That's why we are going to design and fabricate a machine that can peel both chicken and quail eggs easily. Eggs peeling machine is equipment which is used to peel the boiled eggs in medium quantity. Basically, our machine is totally based on the manual method that the machine contains a dc motor that powers the conveyor which is responsible for delivering the eggs from the egg reservoir to the counter rotating shaft. The counter rotating shaft is inserted to a rubber tube. The rubber tube peels the eggs due to friction. The eggshells are collected at the bottom for easy disposal. Then a coiled roller pushes the egg in to the funnel where the eggs fall in a storage. This machine is useful for the home appliances. The machine is portable and easy to carry. Very simple mechanisms are used in this machine. A dc motor, circular disc, binary links, this operation also can be done by less skilled worker. The machine is made to reduce the human effort and complete the job efficiently.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Eggs are packed with protein, especially the whites. When those proteins are exposed to heat, like when an egg is being cooked. The proteins coagulate or turn from liquid to solid. Coagulation is a good thing, because it means you get to eat a solid egg instead of a gross, goopy mess. But the process also makes boiled eggs difficult to peel. Proteins are very sticky. When the egg white cooks, it can bind to the membrane and the shell, and you end up with a torn, pockmarked egg. An egg's pH also plays a role. Egg white proteins that contain more acid are especially sticky. Fresher eggs tend to have a lower pH, which is why the eggs from your local farmer's market tend to be more stubborn than the ones from the grocery store. Most used method is shaking of egg in a glass of water. The boiled eggs are peeled by using a glass of water and some human efforts. The working of this method is depending on the reciprocating motion same as our machine, but it requires the human efforts. The working of this method is, firstly we have to put the boiled egg in the glass but before that we have to add some water into the glass. After this hold the glass horizontally in a way that close the open mouth of the glass with hand. After this we have to oscillate it with our hand very rapidly, once the work will do, the peeled egg can be taken out from the glass with the peeled extra. The big disadvantage of this method is, we can't use multiple eggs at a time. Another is we required extra human efforts to get the desired output.