

PROTOTYPE DESIGN COLLECTION

SERIES 2



Prototype Design Collection

Series 2



AHMAD NAJMIE RUSLI

**UNIVERSITI TEKNOLOGI MARA CAWANGAN JOHOR
KAMPUS PASIR GUDANG**

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FOREWORD

This digital book on Prototype Design Collection Series 2 (PDC Series 2) is published as a reference design for mechanical engineering students. The designs presented experience a few phases of analysis before fabrication of prototype. Each project summarises the project description, prototype, figures, and design parameter. The design products vary in tools or equipment for household, workshop, entrepreneur, etc. Suggested material and detail of prototype dimension are also mentioned in this book.

It is hoped that this book will assist the students to have more ideas on innovation design products in the future.

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CHAPTER 50

Design and Fabrication of An Automatic Flour Sieve Machine

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PROJECT DESCRIPTION

In this global era, most people still use a manual flour sieve which is a colander when they are cooking or preparing a mixture for cakes. It takes a very long time to prepare a cake because they cannot multitask while preparing the mixture and more energy is needed in the making of it. Therefore, this project is designed for those who like to cook alone at home because it can save consumers time when cooking and baking cakes. Other than that, it also can reduce human energy consumption. The main mechanical engineering concept used in this project is the dynamic concept which contains rotational and linear motion. The crank and slider mechanism will be used to convert rotational motion to linear motion. When the motor is turned on, the horizontal rotational motion will be transferred to the vertical rotational motion by a bevel gear. Hence, simple wiring is needed to complete the project. Since this project used electrical and mechanical parts that can be harmful to the consumer, the mechanism will be housed within a cover to ensure its safety.

Keywords: Home cleaning, Sweeper, Broom, Shovel

PROTOTYPE



DESIGN PARAMETER

