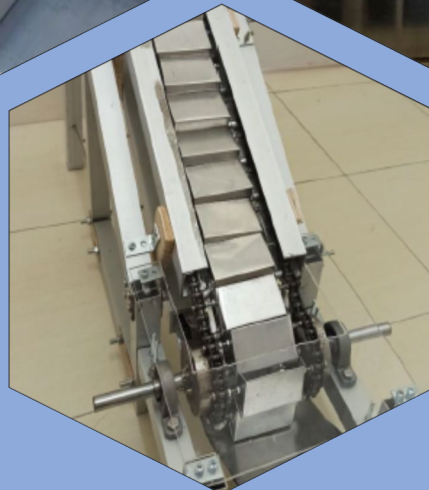
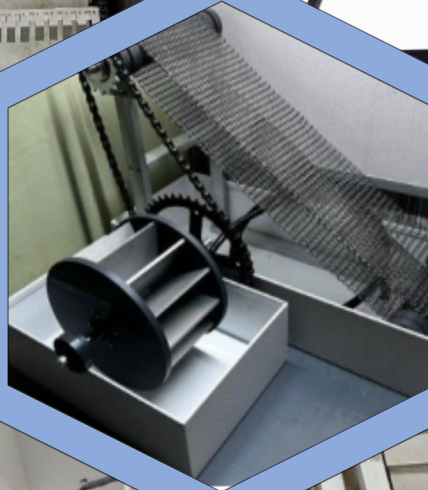


PROTOTYPE DESIGN COLLECTION

SERIES 1



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CHAPTER 28

Design, Analysis and Fabrication of Automatic Knife Sharpener

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PROJECT DESCRIPTION

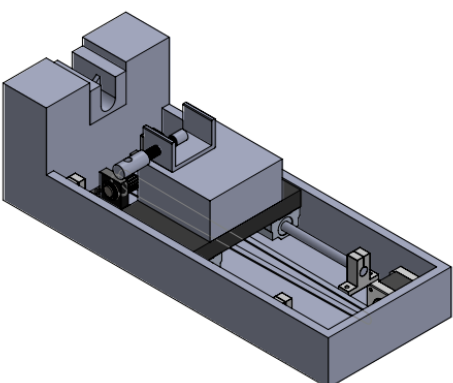
Nowadays, the process of sharpening a knife can be hard and tiring to sharpen their knife to a razor sharp knife. Currently, people are using the traditional method such as slicing the blade with the sharpener stone. This traditional method requires a cyclic movement of the hand with the additional pressure. Due to this action, users constantly require a lot of energy. The constant cyclic process sometimes led to an injury to the user. Apart from that, users also have the difficulties to determine whether the knife is sharp enough. Due to the problems mentioned, the objective of this project is to solve all the problems. This project will focus on a product that can ease the process, reduce the risk of injuries, and be able to make sure the knife is sharp enough from the sharpening process. In this project, data will be collected from the user and analysed. Data collected will be used to create the Product Design Spec (PDS). As for the method of choosing the conceptual design, I have used a Pugh chart to compare the concept designs created based on various criteria. Each design will be given a rate based on various criteria and the total points accumulated will show the best design for this project. From there on, the concept design chosen will be created in solidworks to be used as the final design. Later on, the solidwork analysis was used to undergo analysis on the final design to predict the product's real-world behaviour. Following this, the most important part is fabrication where the product manufacturing process happens. Lastly, the product that has been fabricated must go through testing and make sure everything is working. It is expected that the product would be sturdy and safe, and that it will assist the user efficiently in sharpening knives.


Keywords: *knife, sharp, analysis*

PROTOTYPE



DESIGN PARAMETER

6	5	4	3	2	1
D					D
C					C
B					B
A					A
6	5	4	3	2	1

FAKULTI KEJURUTERAAN MEKANIKAL (FKM) UNIVERSITI TEKNOLOGI MARA (UiTM) JOHOR KAMPUS PASIR GUDANG				
Course Name		MEC300 - FINAL YEAR PROJECT 2 SESSION: OKTOBER 2021 - FEBRUARY 2022		
Group		J4EM1105D		
Approved	Checked	Drawn		
		MOHAMAD FALIQ BIN FADZIL 17/1/2022		
Drawing Title		ASSEMBLY OF AUTOMATIC KNIFE SHARPENER		
Part Name		-		
Part No.		-		
Rev.	Scale	Projection	Weight	Sheet
0	1:4		7kg	7/7