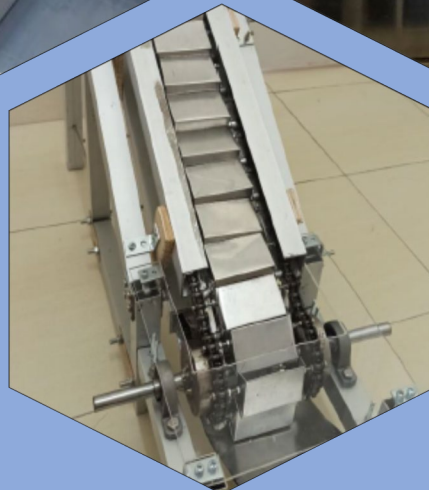
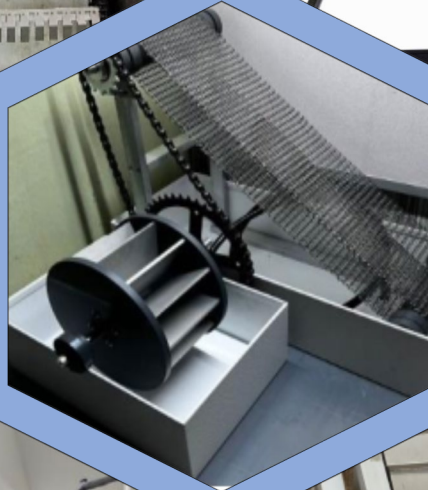


PROTOTYPE DESIGN COLLECTION

SERIES 1



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e-ISBN: 978-967-0033-07-5

First published, 30 September 2022

EDITORS:

Ahmad Najmie Rusli

Nurul Nadiah Rasdi

PUBLISHED BY:

Pusat Pengajian Kejuruteraan Mekanikal,
Universiti Teknologi MARA Cawangan Johor,
Kampus Pasir Gudang,
Jalan Purnama, Bandar Seri Alam,
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CHAPTER 8

To Design and Fabricate of An Innovative Multipurpose Hand Truck

Muhammad Danish Bin Dzulhelmy and Zeno Michael

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PROJECT DESCRIPTION

In today's life, people may have to transport many loads and objects of numerous quantities either at home or at work. There should be a utility that can help to carry the goods comfortably without forcing the user to apply more force. Using manual effort may cause injuries and fatalities of workers which is not a healthy work environment. This project is about designing and fabricating a Multipurpose Hand Truck. This project aimed to help manage loads without damaging the body and lower the risk of injury. Other than that, the purpose of this project is also to save money, time, and storage space. The steps taken to achieve this goal include sketching the product design, creating a CAD model of the design, and machining processes such as grinding, drilling and cutting by considering ergonomic factors so that the users can use it easily. The main material used to fabricate this product is steel because it has high strength characteristic which can carry heavy loads without any issues. This project has solved the difficulty that people were having with the existing hand trucks on the market. The project was completed successfully which can make the users feel comfortable and easier to use in daily life.

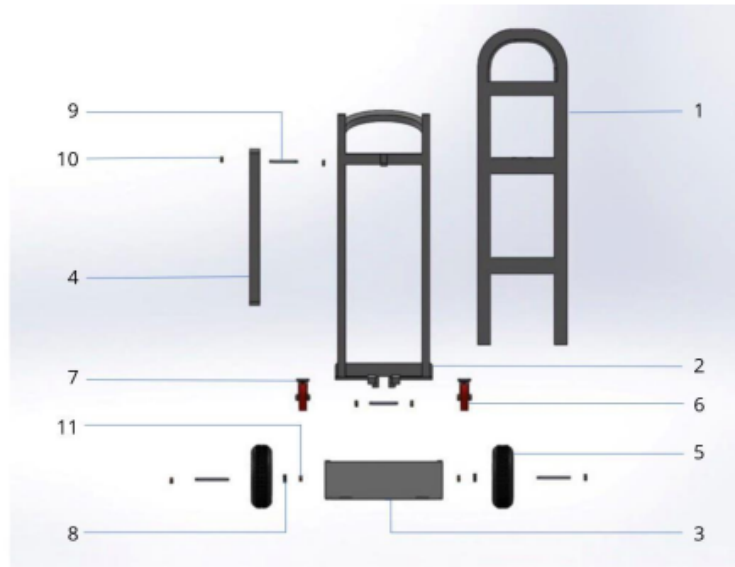
Keywords: *Hand Truck, Multipurpose Trolley*

PROTOTYPE



DESIGN PARAMETER





| PART NO. | NAME | MATERIAL | QUANTITY |
|----------|--------------------|--------------|----------|
| 1 | Front Frame | Steel | 1 |
| 2 | Rear Frame | Steel | 1 |
| 3 | Nose Plate | Steel | 1 |
| 4 | Connector | Steel | 1 |
| 5 | Front Wheel | Solid Rubber | 2 |
| 6 | Rear Wheel | Polyurethane | 2 |
| 7 | Rear Wheel Bracket | Steel | 2 |
| 8 | Bearing | Steel | 2 |
| 9 | Bolt | Steel | 4 |
| 10 | Nut | Steel | 4 |