"360^0 TURNING ELECTRIC FORKLIFT FOR INDUSTRY WAREHOUSES AND DOMESTIC PURPOSES"

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ABSTRACT

In very new technology the industry is developing day by day our project is comfort coupled with safety and simplicity is what man strives for. Our project has been to bring about both. The culmination of our effort has resulted in development of a new project. The project presents a basic as well as very professional treatment of the subject in a very comprehensive, based on learning effort and understanding capability of today as per their leveles. The device is simple and comfortable. Basic calculation, drawing, designing is included in the project. The salient features of our machine can be listed as the mechanism used is very simple, easy for operation, no skill is required to operate the machine.

Keywords- *Simple in design construction, easy in location shifts, forklift, 360º turning.*

INTRODUCTION

Recent days due to heavy work load environment in the mechanical industrial line's workers are been depressed for carrying a heavy load, where the workers are prone to unhealthy conditions. Due to these factors some load carrying machines were developed in the recent past years. Working in the mechanical workshops or any other large fabrication unit, where load is to carry (bars, plates, machined jobs etc.) from one unit of the factory to the other unit this device is useful. The In-plant goods carrier system is user friendly as designed. The device finds greater use in the industrial lines for transport of the machined jobs, carrying goods internally in the fabrication plant. The present In-plant goods carrier system is used for the industrial applications which can be moved from one place to other and hence the work such as carrying goods or any other is done within the time schedule and the particular cycle time for that operation is saved, the handling, fixing and the other time wasted in carrying goods can be better utilized to carry out the production. Forklift is defined as an industrial truck which is capable of lifting certain capable of kilograms. Forklift is commonly used in warehousing and manufacturing and it consists of two metal forks at the front of the vehicle in order to lift and transfer the load. The way the load is lifted in case of forklift is in such a way that the operator is going to move forward the vehicle until the two forks push under the cargo and then it is lifted by operating the forks. Sometimes forks are also known as blades and made of steel and is capable to lift a few tons.

OBJECTIVE

To Build a mechanical tool which is economically appropriate tool for industries and for domestic purposes. Taking into consideration of cost issues and Safety issues in work loading area and in the storage areas etc. Prime consideration as follows:

- Build a useful device for transporting factory goods.
- Develop much more useful work for industrial works and domestic uses.
- Its more secure device in every-way, Simple in construction, portable and less floor space consuming.

LITERATURE SURVEY

[1]. **Aditya chawke**: Fabrication of Battery-Operated Remote-Control Forklift Machine. Mechanical forklift is a new and advance technique use in mechanical industry line they operate with the help of remotes.it requires an electricity as well as a cost of remote operated forklift is high so that a human powered forklift is introduce.

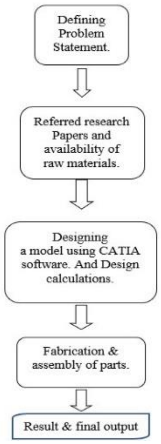
[2]. **Dheerendra Singh:** Design and Fabrication of Two Wheel Drive Forklift. Moving raw material, finished goods, semi- finished goods from one place to other are now done by forklift. Forklifts are used for carrying heavy loads, loading and unloading of trucks, ships etc. in ware housing and construction sites so, decided to design and fabricate miniature two-wheel drive forklift which is cost effective and can be used in small industries, factories, ware house etc.

[3]. **Adithya**: Pedal and Rope Operated Forklift. Many industries use forklifts for lifting heavy goods, etc. these are applicable for large scale industries and highly automated industries. Since the small industries requires repeated movement of load from one station to another station the use of these forklift will not be Economically. The idea is to lift the load and transport the material, heavy load which cannot be lifted by humans.

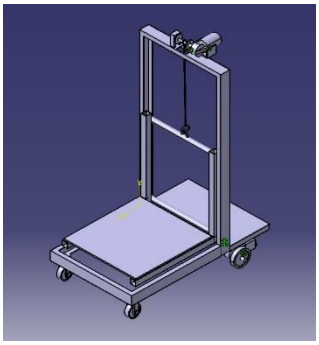
[4]. **Lobo Allwyn M**: Design and Development of Mechanical Forklift. The forklift equipment is compact in size can be alternative for the manual lifting.

[5]. **Anil A:** Design and Fabrication of Battery-Operated Forklift. The Battery-Operated fork lift is an improved version of lifting and carrying the load which needs to be transferred from one place to another. This advanced technology has brought a new revolution in the mechanical industries and most commonly used in heavy Engineering companies. These forklift vehicles had revolutionized ware-housing practices used in the middle of the 20th century.

METHODOLOGY



Flow Chart of Project



Software model view

General Requirements of Machine Design

1. Simple in design and construction
2. Cost effective & well appearance.
3. Safety, good use of control movements
4. Productivity and ability to give an offer where its required accuracy of form and other importance in the finish part

Design Procedure

The subject of machine design deals with the art of designing machine of structure. A machine is a combination of resistance bodies with successfully constrained relative motions which is used for transforming other forms of energy into mechanical energy or transmitting and modifying available design is to create new and better machines or structures and improving the existing ones such that it will convert and control motions either with or without transmitting power. It is the practical application of machinery to the design and construction of machine and structure. In order to design simple component satisfactorily, a sound knowledge of applied science is essential and important.

Working

The wheel shaft is connected with arrangement of a motor. This motor is used to run the vehicle. Battery is connected to the motor. The motor is connected to the wheels which will move in required direction the operating switch is given near the human handle This vehicle causes no pollution. The battery can be charged with the help of charger The device is compact in size and can move in required less area which can be used for different loads to carry the lifting mechanism is used in which sling rope with motor is used, the mechanical fork lift machine consist of frame which is made up of square material of mild steel which are welded together to form a structure. Wheels are attached for easy movement of the fork lift. The machine consists of motor, battery, structure, Castrol wheels, bearing, guide rod the mechanical fork lift is very much helpful in workshops, warehouse for easy placement or tasking of products. It is advantageous as it is purely mechanical which does not use any electric current & hence more efficient. Usage of mechanical fork lift reduces the human labour.

At the same time as growing technology in mechanical field the product can go with modern and newest things to develop the design and product with the following things

1. Make available of the possible ways of medium and offer the choice movement
2. Pick out the fabric expects and for particular element of the device
3. Perceive the significance and operation of tools
4. Work with possible mechanism for devices and develop further, surely and updating product
5. Make assembly and elements details, delineations of the device with complete specification of things and materials, manufacturing strategies and other much more techniques and knowledge. And much more.

Working model

CONCLUSIONS

We have taken up this project as real challenge, as we were not experience in the mechanical field. We started our work on this project facing new hurdles initially. The manoeuvrability of the device is quite good and the handling is quite simple. For commercial purpose one can improve the efficiency of the device effectively by increasing the size of the device.

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