



Design and Development of DrumLifter and cum Tilter

Akshay Dhanaji Rathod¹, Rushikesh Rajendra Pawar², Kishor yashwant mane³, Vishal Vilas kamble⁴,

Sumit Rajendra Mane⁵, Prof. U Y Siddha⁶

Student, Mechanical Engineering, AITRC, Vita, India¹⁻⁵

Assistant Professor, Mechanical Engineering, AITRC, Vita, India⁶

Abstract: This paper presents the use of drum managing equipment in the organizations to lessen expert for drum managing. The survey effect of material managing on human is done in this paper. Similarly focus on different material dealing with gear used in undertakings. In the current savage relentless overall business areas, clients are mentioning adaptable sizes, better type, and versatility: to put it evidently, they need everything. To stay serious watching out, associations need to accomplish both purchaser faithfulness and cost decline in progress exercises. Material Managing Structures (MHS) is the spot to accomplish this goal since they promptly affect creation. The utilizing compressed water worked drum lifter cum tilter is versatile on three wheels, two of which are coordinating sorts. The use of drum managing gear in the ventures to decrease workers for drum managing. Existing methodologies are manual, water driven structure, and pneumatic worked machine. To restrict expert for Drum transporting, stacking, unloading, lifting furthermore, moving cycle. Material dealing with systems contain discrete or consistent resources for move substances beginning with one region then onto the following. To deal with practical adequacy, increase responsiveness, further foster consistency and consistency, decline working costs, and take out monotonous or then again potentially hazardous troublesome work

Keywords: Industries, Material Handlings, Material Handling Hazards, Adjustable Sizes, Flexibility, Customer Satisfaction, Cost Reduction, Production Operations.

I. INTRODUCTION

A manual drum lifter is a device that helps with lifting and move drums checking however much 400 pounds load limit. The lifter contains an edge with two runners that connect under the drum. The runners are joined to a handle, which is used to take the drum off the ground The manual drum lifter is planned for use with 30 and 55 gallon drums. It is made of no- nonsense steel for strength and takes care of a powder finish to go against utilization. The manual drum lifter is easy to assemble and use, and it is a central piece of equipment for any business that usages drums. Arranging of lifting, moving around practices considering the physical and physiological capacities of the executives is central. The inspiration driving this study is to sort out some way to plan and encourage a material managing structure (MHS) that works without affecting the day to day timetable of the managers, or the business, while diminishing the work, time, and cost expected to move materials through various means, while additional fostering the general work efficiency. They handle drum genuinely. In work place drum moved, lifted, Stacked, moved, etc genuinely. Managing significant weight actually takes extra time, expert moreover it is gambles and perilous. In little medication association around 25 different kind of normal substance use. It is in liquid construction which istaken out from 210 li.

II. LITERATURE REVIEW

- **Manual Handing in the Food Industry:** In this title “A Guide to Manual Handing in the Food Industry” explains material handling in food industries. The Guide demonstrates both Work Safe “s and the industries expectations on how to best reduce the risk of musculoskeletal disorders arising from manual handling in the food industry.
- **Manual Handling Resources:** In this title “Manual Handling Resources” Explain better use material handling equipment for the different application like in cleaning of floor, storing easy method etc. Also explain how to reduce work load and maximize safety.
- **Safe Manual Handling :** In paper title “Safe Manual Material Handling” by University Of California explain frequent lifting, carrying, pushing, pulling, lowering and raising materials by hand. Staff who lift or perform other materials handling tasks may be atrisk for back or other injuries.
- **Health and Safety Executive :** In His title “Making the best use of lifting and handling aids” Explain the how to use the materialhandling equipment for various application in industries. by– www.hse.gov.uk/pubns/indg398.htm.
- **Clyde Material Handling:** In His title “Material Handling Solution for the Food & Pharmaceutical Industries” Explain the use of material handling equipment in pharmaceutical industries. And also explain requirement of in material handling in pharmaceutical industries.



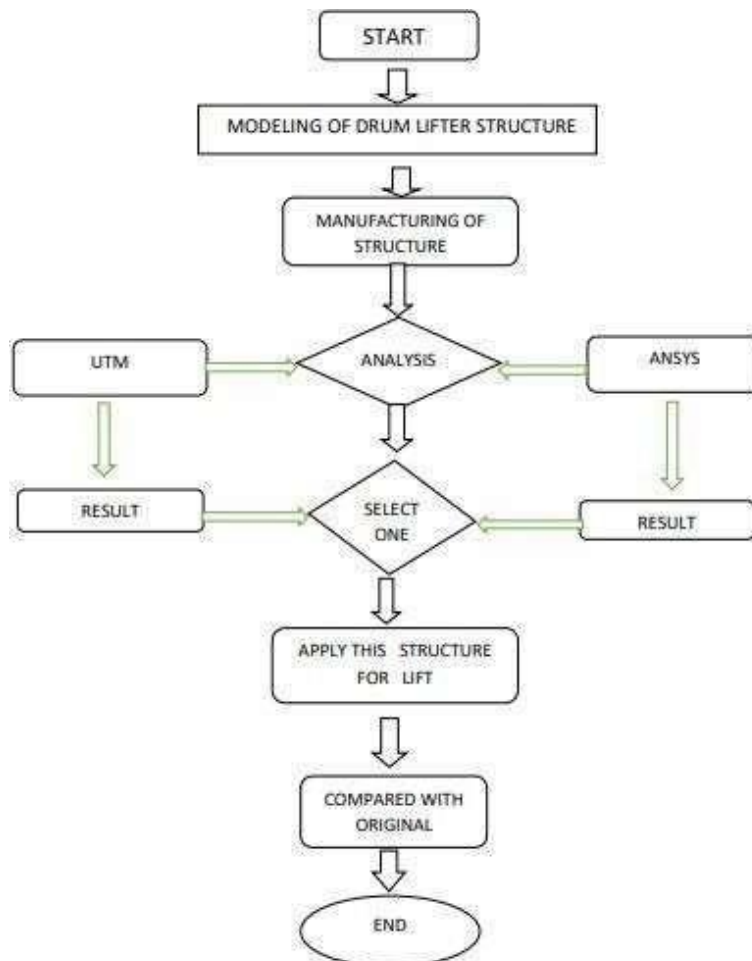
- **California Department of Industrial:** Relations In this Title “Manual Material Handling” written for managers and supervisors in industries that involve the manual handling of containers. It offers suggestions to improve the handling of rectangular, square, and cylindrical containers, sacks, and bags. “Improving Manual Material Handling in Your Workplace”
- **Work Safe :** In this Title “Safety by design” Explain The transportation of goods plays a major role in Australia is national and international activities. This booklet helps to identify some of the potential risks and provides solutions and tips to help reduce injuries in the transport industry.
- **R. A. Gujar1, S. V. Bhaskar :** “Shaft Design under Fatigue Loading By Using Modified Goodman Method” In this paper, shaft employed in an Inertia dynamometer rotated at 1000rpm is studied. Considering the system, forces, torque acting on a shaft is used to calculate the stresses induced.

III. METHODOLOGY

- In this project CATIA is used as CAD software while ANSYS is used for analysis of equivalent stress and total deformation.
- The value of total deformation and equivalent stress which is getting from ANSYS software.
- This value is then comparing with manual calculation as well as from experimental Universal Testing Machine. Results were recorded.
- Then compared Analytical and FEA analysis to conclude results.

Proposed layout:

STRUCTURE ANALYSIS





CHAPTER SCHEME OF PROPOSED WORK

- A. Title
- B. Abstract
- C. Introduction
- D. Problem analysis/literature review
- E. Objectives
- F. Hypotheses
- G. Limitations
- H. Methodology and methods
- I. Result
- J. Discussion
- K. Conclusion
- L. References
- M. Appendix A Research Matrix
- N. Appendix B Data collection instruments (e.g., interview guide, questionnaire)

IV. MODELING AND ANALYSIS



FIG NO. 1



FIG NO. 2

V. FACILITIES REQUIRED AND AVAILABLE

- Access of research papers for the project from internet.
- Central Workshop.
- Software's like CATIA V5R20 and ANSYS WORKBENCH 14.5 to carry out CAE work.
- Measuring machine like UTM.



VI. CONCLUSION

The primary end will be attracted to see if it is feasible to computerize a gifted manual interaction that would keep away from laborer exhaustion. Additionally, the future extension for fostering the summed up component for any profile can be distinguished. The essential end will be drawn to check whether it is practical to modernize a talented manual cooperation that would avoid worker fatigue. Moreover, the future augmentation for encouraging the summarized part for any profile can be recognized.

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