

## Title:-Mechanized Device of Thonga Manufacturing



### Team Members

Pradipt Kant Kumar, M.Tech(Pursuing), NIT Durgapur, Mechanical Engineering Department

Pranendra Nath Mahata, B.Tech (Pursuing), GKCIET, Malda, Mechanical Engineering Department

### Supervisor

Prashree Jana, Assistant Professor, Department of Mechanical Engineering, CEM, Kolaghat

# CONTENTS

- Introduction
- Objective
- Components of machine
- Mechanism
- Working
- Fabrication
- Cost analysis
- Project Model
- Types of automatic thonga making machine
- Market survey
- Advantages
- Disadvantages
- Future scope
- Conclusion
- Acknowledgement
- References

# TRODUCTION

- An automatic thonga manufacturing machine is a mechanical device that manufactures thonga(paper bags) with/without human efforts.
- This type of devices are mainly observed in the rural and semi urban areas.
- It is two types:(i)Automatic[Works without manpower],  
(ii)Semi-Automatic[Works simultaneously with human].
- It contributes a huge in the rural economy and reducing human efforts.

# AND MADE HONGA MAKING PROCESS



# OBJECTIVE

1. To minimize the human effort.
2. To develop simple mechanism to perform the operation.
3. To increase the efficiency and quality of the products.
4. To analyze the demand of paper bag.
5. To develop a machine which can be used mostly where there is shortage of electricity.
6. To increase the production rate with the less cost.

# COMPONENTS OF MACHINE

1. AC motor
2. Pedestal bearing
3. Pulley
4. Gear
5. Folding SS arm's
6. Glue solenoids or roller
7. Pneumatic cylinder
8. Body frame
9. Conveyor belt
10. Controller circuit

# MECHANISM

The Paper pulling mechanism is used to pull the paper from the paper roll and by pulling it through the rollers it passes to the folding mechanism where the paper is folded from one side and further passes to the gluing mechanism where the one-sided open fold is pasted with the help of glue. After gluing the cutting operation is carried out and punching is done on the top side of the bag.

# ORKING

The output of the system is a paper bag when the paper roll is input into the machine. Motor is used in the system to transmit the power and operate conveyor speed reduction mechanism, feeding and folding mechanism. The paper from paper roll is pulled with the help of pulling mechanism then this paper which will be passed to the folding mechanism by using roller, belt and conveyor. Gluing mechanism is used in the system to apply glue on the paper. After these operations the cutting operation is carried out and then punching on the top side of the bag. In this way final product is taken out that is paper bag.



# FABRICATION

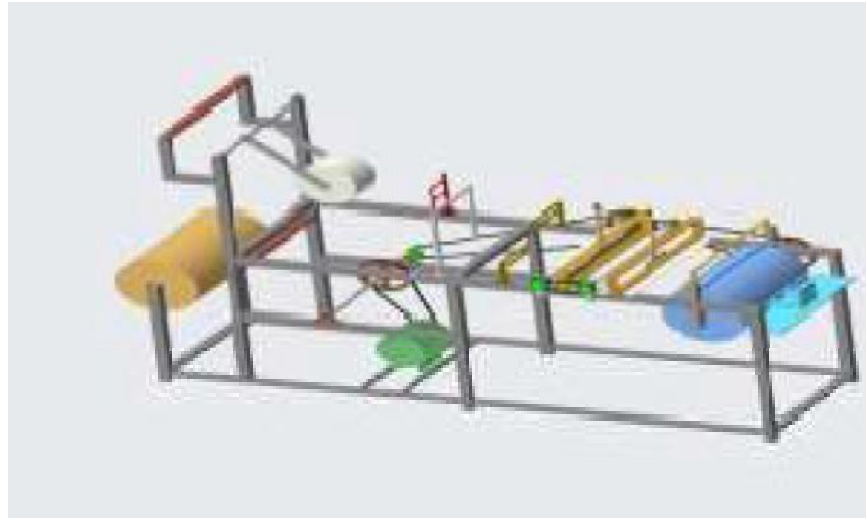
The following table shows the list of operation performed for the fabrication of each components and its material.

SR.NO	COMPONENTS	MATERIALS	OPREATIONS REQUIRED
1.	Shaft	Stainless Steel	Feeding, Folding, Gluing, Cutting , Punchin
2.	Body Frame	Mild Steel	
3.	Conveyor Belt	Rubber	
4.	Fiber Board	Fiber	
5.	Pedestal Bearing	Cast Steel	
6.	Cylinder	Stainless Steel	

# COST ANALYSIS

Sr. No.	Component	Quantity	Cost (In Rs.)
1.	Conveyor Belt	1	275
2.	Pulley		
	2.75 inch	1	270
	2 inch	1	230
	10 inch	2	1800
3.	Motor	1	2500
4.	V- Belt		
	44 inch	1	180
	52 inch	1	110
5.	Bearing		
	Pedestal Bearing	6	3300
	Roller Bearing	10	400
6.	Roller	4	1200
7.	Pneumatic Cylinder	1	2000
8.	Glue	3	1000
9.	Fabrication	-	23475
			40000/-

# *Project Model*



# Parts of the Project Model

1. Jumbo paper roll.
2. Primary roller.
3. Air Compressor.
4. Cutting & pasting Kit.
5. Exit Roller.

# TYPES OF AUTOMATIC HONGA MAKING MACHINE

This machine is furthered classified into two types:

1. Automatic without printing.
2. Automatic With Two Color Printing.

# AUTOMATIC MACHINE WITHOUT PRINTING

- ***Paper Bag Size:***(12x18 to 40x60)cm Flat bags
- ***Production Capacity:***120 piece/minute
- ***Machine Cost:***5 Lakh

# UTOMATIC ITH TWO OLOR RINTING

- ***Paper Bag Size:***(12x18 to 40x60)cm Flat bags
- ***Production Capacity:***120 piece/minute
- ***Machine Cost:***6.5 Lakh

# MARKET SURVEY

- The below data shows the type of Paper bag making machine available in India. From this table we can
- come to know that the availability of machine at high cost around our country. The power consumed can
- also add to the monthly expenditure on the machines. The capacities of machines are also shown in table.
- The requirement of floor space is also more for the cheapest machine available which increases the weight of machine.
- 1. **Mahindra engineering company** 80-100 Rs 3.9 lakh
- 2. **Green-tech** 100-120 Rs 5 lakh
- 3. **Elite Pro** 100-120 Rs 2.5 lakh



# DVANTAGES

- More Production in Less Time.
- Better Efficiency.
- Better Economic Growth.
- Low maintenance cost.

## ADVANTAGES

Following are the problems identified while studying about the Paper Bag making machine:-

- Plastic bags are one of the worst and most unnecessary plastic polluters of the earth so we avoid to the use of plastic bags we made paper bags.
- Other paper bags to increase the strengthened by adding chemical creates a lot of pollution which in turns harms the environment.
- A small percentage of these end of being recycled, and some people try to reuse old plastic bags for other purposes, but the vast majority of plastic bags are used a single time.
- The major drawbacks of the existing machines are too large a occupy huge area.
- In existing machine the operation gluing folding and punching are not perform on a single unit.
- In ancient days the paper bag is made by hand it take more time so that we develop paper bag making machine.

## UTURE SCOPE

The system can use for making various adjustable size paper pouch or bag as our requirement. This machine is useful for small scale production. By adding flexible folding mechanism to the system, paper bag for variable sizes can be obtained. Also we can produce paper bags of large size. Sensing mechanism can be developed to sense glue level. Work can be done to fully automate system and increase productivity.

## CONCLUSION

The machine reduces human effort and contributing a high in environmental concerns. Also it is contributing towards rural economy also in industrial growths. May be there are some drawbacks but we hope in future we will abolish all drawbacks.

## REFERENCES

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