

TECHNICAL REPORT ON DAGOBA INDUSTRIES

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ABSTRACT

Today, India ranks second worldwide in farm output. Agriculture an allied sector like forestry, and fisheries accounted for 13.7% of the GDP in 2013 about 50% of workforce.

A thresher machine is a piece of farm equipments that threshes grains, i.e., removes the seeds from the stalks and husks. It does so by beating the plant to make the seeds fall out.

INTRODUCTION

India is a developing agricultural country cultivating more number of food products for the country and thereby exporting the products to other countries and contributing the economic development of the country. Agricultural equipments required for farming are imported from other countries becomes costlier for farmers to buy them. Thus to make our country even more economically stronger these equipment are needed to be manufactured in our country itself. For farming, thresher machine is one of the most important machinery for cleaning up of grains.

Dagoba Engineering Works

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Dagoba Engineering Works,
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Incepted in the year 1979, Dagoba Engineering Works are ISO 9001:2008 credentialed and are amongst the leading manufacturers and suppliers of qualitative agro equipment such as pulverizers and threshers. Dagoba Engineering Works were incepted by Mr Sadashivrao S. Mahadure and Mr Govindrao with a vision to excel in the market of agro equipment.

Processes Carried in Industry

1. Press Working for Sheet Cutting

Sheets of sizes 18m x 30m. These sheets are cut in desired standard sizes with the help of press. Further the sheets are cut in the shape of hexagon for the production of hopper.

2. Press Working for Sheet Bending

The hexagonal sheet is bent in the form of hopper with the help of press. Hopper is the part of thresher machine through which the grains are pushed into the thresher machine for threshing.

3. Press Working for Sheet Cutting

The rectangular sheet is cut into a semicircle. For this the sheet metal work is clamped on the rotary table with the help of clamping bolts. The punch is in the shape semicircle. The press is operated manually.

4. Press Working for Sheet Rolling

The plain sheet is rolled with the help of rolling press. In this type of press, there are 2 rollers, one is fixed and other is movable. The sheet is made to pass

between these two rollers. The diameter of the rolled sheet is adjusted by adjusting the position of the movable roller.

5. Drilling

Drilling is also carried out in the industry for allocation of holes.

6. Welding

The various parts of the thresher machine produced in the industry by press working.

PROBLEMS FACED AND THEIR REMEDIES

1. V GROOVE CUTTING

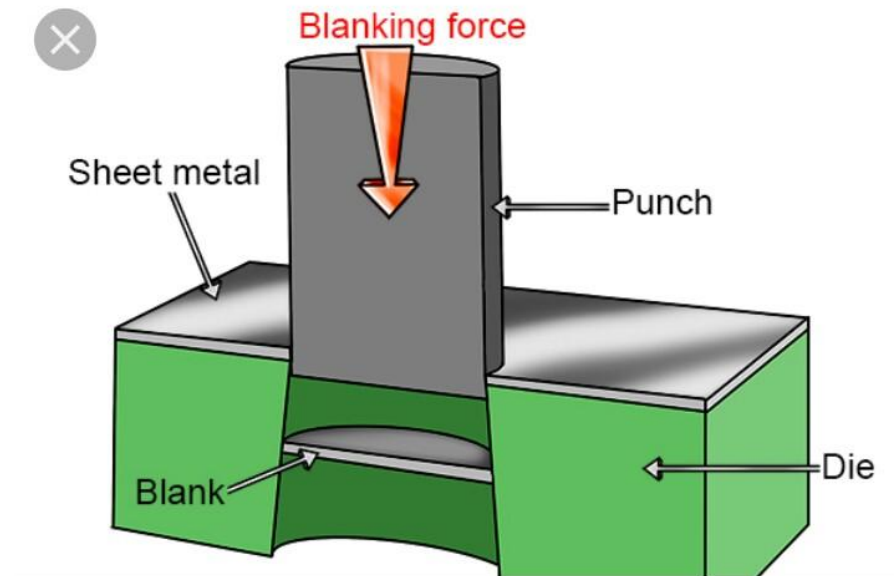
- In the industry, workers employ sheet metal working to cut a 'V' groove. They perform V cut in 2 strokes. Less accuracy due to the manual cutting operation. The cutting process used in this industry is manually operated, it takes more time as well as less accuracy and increases the cost of the product.

- **PROBLEM**

- a. Excess workers are required
- b. Requires more time

- **REMEDIES**

If notching operation is introduced then the V groove can be cut easily in one stroke. Thus, it reduces the time required and frees a labour.



- **ADVANTAGES**

- a. Reduces the number of labour as it requires one labour to perform operation
- b. Increased accuracy
- c. Less time is required to perform V groove
- d. Reduced cost of production

2. SPEED CONTROLLER

In this industry, different types of machines are produced for different capacity of grains as well as the motors used have different speeds. This increases the cost of production. As a result poor farmer who already has a thresher machine of lower capacity cannot afford to buy a new one.

- **PROBLEM**

- a. Increased cost of production
- b. Time consuming
- c. Poor farmer cannot afford to buy a new machine of higher cost

- **REMEDIES**

Instead of using different machines, a machine with higher power motor can be produced with a provision of the regulator.



- **ADVANTAGES**
 - a. Reduced cost of production
 - b. Various speeds can be achieved in a single machine
 - c. Farmers can easily vary the speed according to their production

3. MESHING SIZE FOR DIFFERENT CROPS

Threshing machine threshes various crops, grains of which have different size. Thus, each grain crop requires different meshing size. Farmers those who purchase thresher are provided with different meshing size. Thus, while threshing different grains the meshing size needs to be changed frequently.

- **PROBLEMS**
 - a. Frequent changing of meshing is required for different crops
 - b. Increases threshing time
 - c. Sometimes it creates hectic situation

- **REMEDIES**

The meshing can be produced with a knob which enables a provision to the farmers to adjust the mesh size as per the crop to be threshed.

- **ADVANTAGES**
 - a. Easy to thresh grains
 - b. Less threshing time

CONCLUSION

Thus, a new threshing machine can be designed by adopting above changes which are as follows:-

1. Production of a die for V cutting
2. Provision of regulator to vary speed according to the amount of crops to be threshed
3. Designing a new meshing with a regulatory knob which adjusts the meshing size according to the type of crop to be threshed

Thus, a new machined designed will have the following advantages:-

1. Lesser cost of production
2. Easy to use and operate
3. Lesser time requirement
4. Increased accuracy
5. Less workers are required