Pedal Powered Land Plowing Machine

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Abstract – Tractors are costly for smaller cultivation lands and it is making pollution. A plowing machine which is powered by pedal (man powered) can be a better alternative for plowing smaller lands efficiently. Because of using pedal powered land plowing machine there is no need for getting a tractor and driver for hire, so it could be effective way of plowing smaller lands. It is hoped that this pedal powered land plowing machine could be a better alternative of plowing cultivation lands for small lands.

Keywords—tractors, plowing, small lands, costly, pedal powered plowing, cheaper (key words)

A. INTRODUCTION

A tractor is an engineering vehicle specifically designed to deliver a high tractive effort at slow speeds, for the purposes of hauling a trailer or plowing lands or machinery used in agriculture or construction.

Using tractor is an effective way of preparing lands for cultivation of larger lands but it is not as efficient as larger lands for small lands (5 to 10 cents) because tractors costs much for smaller lands.

By using pedal powered land plowing machine for small level or habitual farmer it makes them to easily use it in the side of cost.

Ease of Use.

B. PROBLEM STATEMENT

The pedal powered land plowing machine can overcomes small level and habitual farmer needs. The first and foremost problem identified is that the higher cast required and unavailability of tractors for plowing operation. This machine helps to reduce the cost consumption.

C. COMPONENTS USED

- Bearing
- Shaft
- Sprocket
- Roller chain
- Frame
- Pedal
- Plow/Plough
- Toothed wheel

D. SPECIFICATIONS OF COMPONENTS

FRAME
Width -762mm Breadth -1067mm
SHAFT
Diameter-30mm Length – 915 mm
BEARING
Inner Diameter – 30 mm Outer Diameter – 55 mm
DRIVEN SPROCKET
Number of teeth= 44 Diameter =180 mm
DRIVER SPROCKET
Number of teeth= 13 Diameter =60 mm

E. WORKING

The pedal powered land plowing machine is taken to the cultivation land to be plowed. The plow is pressed in the land to initiate the plowing process. Then the rider gets on the plowing machine and starts to ride the machine by pedaling as done in bicycles.

When the rider rides the machine, the machine tends to forward but the plow is pressed inside the land so it could be hard to pull the plow, the toothed plow will make enough grip for the forward motion. When the machine moves forward the land is turning up the earth of (an area of land) with a plough/plow, especially before sowing.

So the land I ready to sowing process that is the land is plowed.

F. PROJECT METHODOLOGY

- Steps involved in making the Pedal Powered Land Plowing Machine are described below
- Purchasing of shaft
- Purchasing of bearing
- Purchasing of square bar
- Purchasing of sprocket
- Purchasing of chain
- Fabrication of plow
- Fabrication of frame
Lathe operation for required level of shaft
Assembly process

G. ADVANTAGE

- Simple construction.
- We can easily handle the machine.
- Available in affordable price.
- Can be used to plow small sized cultivation lands.

H. APPLICATON

Pedal powered land plowing machine can be used for the purpose of plowing of small cultivation lands.

I. FIGURES AND TABLES

a) Positioning Figures and Tables: Place figures and tables at the top and bottom of columns. Avoid placing them in the middle of columns. Large figures and tables may span across both columns. Insert figures and tables after they are cited in the text. Use the abbreviation “Fig. 1”, even at the beginning of a sentence.

### TABLE I.

<table>
<thead>
<tr>
<th>MATERIAL USED</th>
<th>MILD STEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIMENSIONS</td>
<td>LENGTH=762mm</td>
</tr>
<tr>
<td></td>
<td>HEIGHT=595 mm</td>
</tr>
<tr>
<td></td>
<td>WIDTH=1067mm</td>
</tr>
<tr>
<td>PLOWING PROCESS</td>
<td>PULLING</td>
</tr>
</tbody>
</table>

J. CONCLUSION

Pedal powered land plowing machine can be used for the purpose of plowing of small cultivation lands.

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REFERENCES


