

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. APPLICATION

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

I. FIGURES AND TABLES

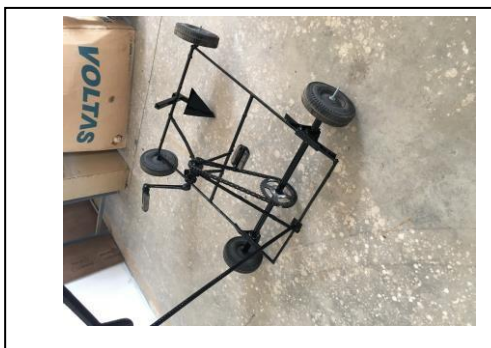
a) *Positioning Figures and Tables:* Place figures and tables at the top and bottom of columns. Avoid placing them in the middle of columns. Large figures and tables may span across both columns. Figure captions should be below the figures; table heads should appear above the tables. Insert figures and tables after they are cited in the text. Use the abbreviation "Fig. 1", even at the beginning of a sentence.

TABLE I.

MATERIAL USED	MILD STEEL
DIMENSIONS	LENGTH=762mm HEIGHT=595 mm WIDTH=1067mm
PLOWING PROCESS	PULLING

J. CONCLUSION

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



ACKNOWLEDGMENT

At the outset we express our gratitude to the almighty that has been with us during each and every step that we have taken towards the completion of this project.

Our heartiest thanks to our honourable Chairman Shri.T.S.R.KHANNAIYAN, for having provided us with all necessary infrastructure and other facilities .Our specialthanks to our Trustee SMT.SARASUWATHI KHANNAIYAN and our secretary SMT. PRIYA SATISH PRABU for extensive support to successfully carryout this project.

We would like to express our sincere thanks to our Principal Dr.C.Natarajan for forwarding us to do our project and offering adequate duration in completing our project.

We also extend our sincere gratitude to Professor Dr. S.R.RAJA BALAYANAN, M.Tech., Ph.D., head of the Department, Department of Mechanical Engineering, Hindusthan Institute of Technology for extending all possible help for this work.

We sincerely thank to our guide Prof. R. SELVENDRAN, M.E.,(Ph.D.) Department of Mechanical Engineering for his valuable guidance in making this project a grand success.

We extend our heartfelt salutations to our beloved parents and the friends who has always been an integral part in helping to our success of this project.

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