

A Wall Finishing Machine For Civil Construction

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ABSTRACT

A wall finishing machine is used for civil construction by using this machine finishing of vertical surface in less time with accuracy. This machine works with the help of electric motor. This motor is connected with chain drive. Roller is mounted on chain drive and roller makes the surface finish better.

Keywords : Friction force, Tension, Velocity, Power transmission.

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I. INTRODUCTION

1.1 CONCEPT

Now a days labour cost is very expensive as well as consumes lots of time in recent scenario the wall finishing is done manually by labour with the help of muster and hence it consumes time and as well as money. To overcome this problem we have made a wall finishing machine so finishing process is done fast & accurately without any human error. Blade is used to remove extra concrete from the wall & roller for proper finishing of the wall.

1.2 COMPONENTS OF MODEL

1. Electric motor
2. Shaft
3. Chain(Bush roller chain) and sprocket drive
4. Bering
5. Supported angle
6. Base plate
7. Tyre
8. Blade
9. Roller
10. Belt drive

1.3 FULL CYCLE

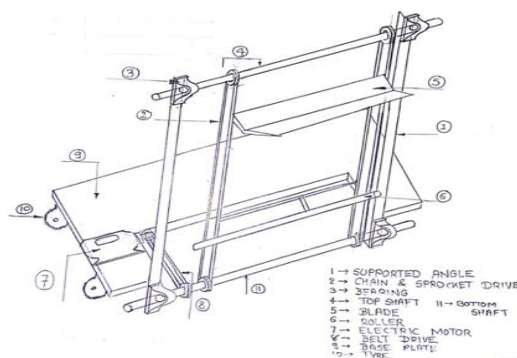
An electric motor which is an electric machine is used to convert electrical energy into mechanical energy. Power supplied by the motor can rotate the motor shaft and it gives rotation to bottom shaft by the help of belt drive. Then bottom shaft gives rotation to top shaft by the help of chain & sprocket drive. The blade's roller which are mounted on chain is used to remove extra concrete material and for smooth & accurate surface finish accurately.

Indentation and Equation

1) friction

$F_f = \mu N$ Where, F_f is the resistive force of friction, μ is the co-efficient of friction for the two surfaces, N is the normal or perpendicular force pushing the two object together, μN is μ times N .

By using this equation we can find out the friction in chain drive and length of chain [1]theory of machine book by R. K. Gupta & R.S. Khurmi [2005]we have take some reference from machine design book for design of this wall finishing machine. Several books where to do modification in design and basic design of this machine.



I. FIGURES AND TABLES

II. CONCLUSION

By using our wall finishing machine labour cost as well as effort is decrease for finishing the wall which means only one labour is required to operate this machine so that we have to give less wages for labour work. It performs finishing work speedily as compare to manual work so that we can save the time.

One of the limitation of this machine is that electricity is required to run it.

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