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Effortless Rope Way Drive for Industry / Agriculture

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Abstract: *This project is to get possible solution for current chaos of transportation system in Surat. To provide pollution free, electric cable car transportation system. To get rid of traffic and nuisance of traffic. The idea is flexible enough that it can be provided in the normal traffic heavy road of any city area. We can design more comfortable and futuristic cable car or say cabin in which passengers travelling through one spot to another. It should be design for more passengers with more comfort ratio.*
A ropeway drive refers to the propulsion mechanism in aerial cable or ropeway systems used for transporting passengers or goods along suspended cables. These drives typically involve motorized systems that pull haul ropes or directly engage track ropes to move cabins efficiently over varied terrain. Engineering abstracts often highlight innovations in friction-based clamping, chain-driven propulsion, or energy-efficient electric motors to ensure safety and reliability.

Keywords: *transportation system*

I. INTRODUCTION

Powered device can satisfy all the requirements of the operation personnel for velocity, descending velocity, the crossing, safety, and reliability. The product of the battery type can perform operations of ascending and descending along the rope of standard specification as a set of personal elevator. By using the powered ascending device, the inspection and maintenance personnel can ascend, descend or in any direction without difficulty in a safe, efficient and economic manner, which is the optimal choice for places difficult to access and impossible to access in other manners

PROBLEM STATEMENT

We committed to providing a safe working environment where no injury results from manual handling activities. We will eliminate hazardous manual handling wherever reasonably practicable through ergonomic design and mechanical aids. Where tasks cannot be avoided, we will conduct rigorous assessments to reduce the risk of musculoskeletal disorders to the lowest possible level.
Manual material handling (MMH) remains a leading cause of workplace injury in the construction industry, accounting for approximately one-third of all non-fatal injuries. Construction sites involve moving heavy, awkward, or unstable materials such as bricks, timber, cement bags, and plasterboard and Repetitive motions such as brushing and rolling; carrying heavy paint cans (often exceeding 10L); and maintaining awkward, static postures while painting ceilings or edges.

II. LITERATURE SURVEY

Proposal of Corvo Cable Car as an Alternative Means of Public Transport in Surat City Rotliwala Yash, Prajapati Samarth, Patel Karan, Patel Dhruvil, Pandey Devendra, Kuldeepsinh Jadeja Volume: 06 Issue: 04 | Apr 2019 IRJET

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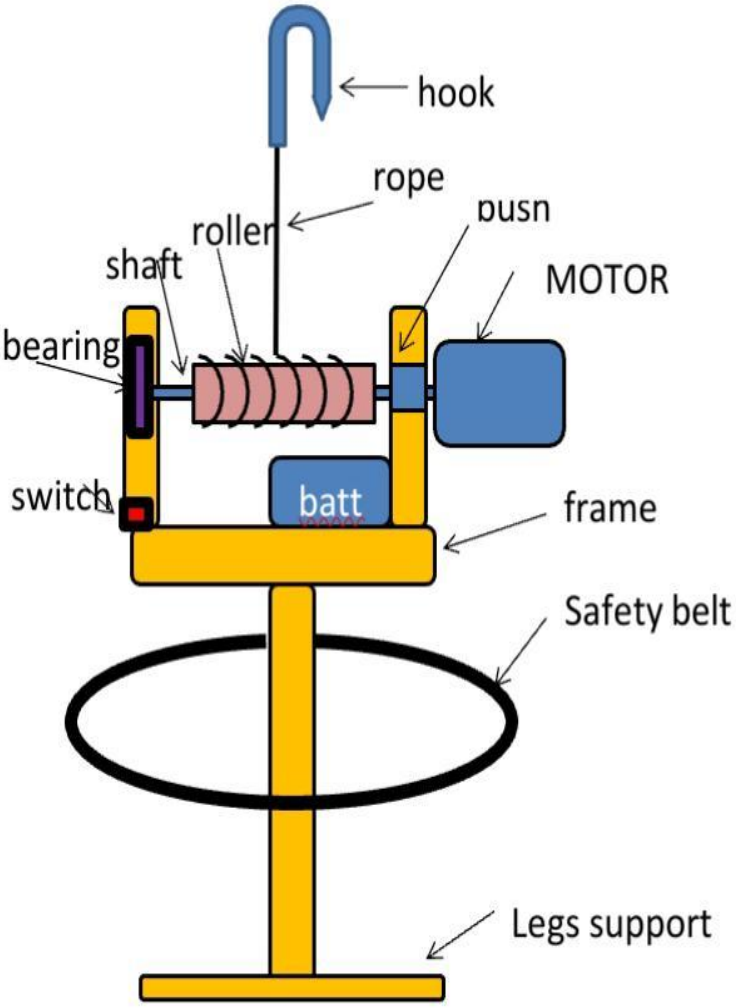
LINE DIAGRAM



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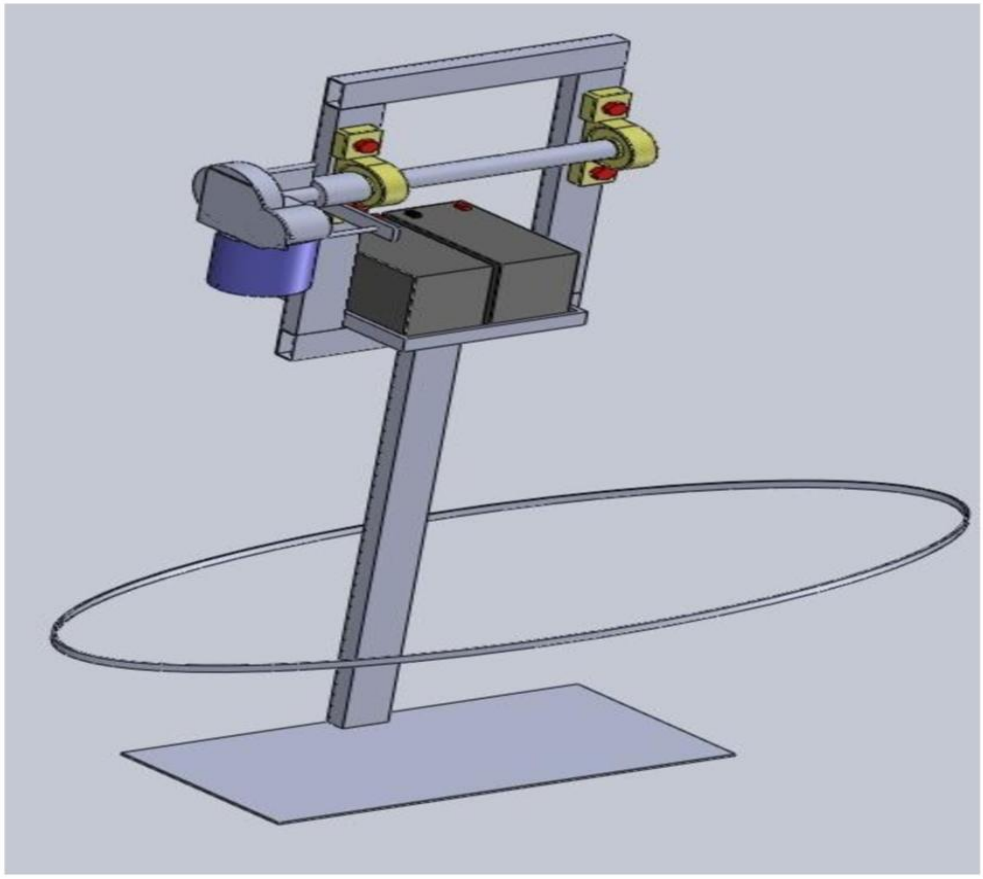
3D ASSEMBLY OF PROJECT



WORKING

It is a safe, pollution free, for both in terms of emission and noise. Its runs on battery power and that battery can be charged with the help of charger and this equipment is light in weight which has a capacity of bearing higher loads the equipment consists of roller the roller is attached to the motor with the help of bush and to the other side with the bearing the motor is powered with the help of battery and as we on the button the motor starts and then roller starts rotating and the rope rotates on the roller by which it will lift load as the motor has high torque the end of the rope is attached to the hook due to which it will be support and then we can lift the load we have used a switch which has the functionality of changing the polarity due to which the motor can rotate in clock and anti clock direction. This device can perform operations of vertical ascending, descending, and traversing along horizontal and inclined rope of standard specification as a set of personal lifter. The operation is convenient, simple, reliable and safe even a single rope is adopted only. Military, police, urban rescuers and security personnel can easily ascend and descend in a safe, rapid and convenient manner by using the device, which is the optimal choice to access the positions quickly where is impossible to access in other manners.

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III. INTRODUCTION OF FABRICATION PROCESS

WELDING

Welding is a permanent type of metal joining process that uses heat to form the bond. When metal is heated to a high enough temperature, it melts. In gas welding the heat comes from a hot burning flame at the tip of the torch. As the temperature rises heat fuses or melts together, the two adjoining pieces of metal .when the liquid metal cools, the two pieces have been joined together.

ARC WELDING

Arc welding is a type of welding that uses a welding power supply to create an electric arc between an electrode and the base material to melt the metals at the welding point. They can use either direct (DC) or alternating (AC) current, and consumables or non-consumables electrodes. The welding region is usually protected by some type of shielding gas, vapor or slag .arc welding process may be manual, semi-automatic or fully automated.

TURNING

Turning is the process whereby a single point cutting tool is parallel to the surface. It can be done manually, in a traditional form of lathe, which frequently requires continuous supervision by the operator, or by using a computer controlled and automated lathe which does not. This type of machine tool is referred to as having computer numerical control, better known as CNC and is commonly used with many other types of machine tool besides the lathe.

DRILLING

Drilling is a cutting process that uses a drill bit to cut or enlarge a hole in solid materials. The drill bit is a multipoint, end cutting tool. It cuts by applying pressure and rotation to the work piece, which forms chips at the cutting edge.

GRINDING

The grinding of solid matters occurs under exposure of mechanical forces that trench the structure by overcoming of the interior bonding forces. After the grinding the state of the solid is changed: the grain size, the grain size disposition and the grain shape.

Grinding may serve the following purposes in engineering:

Increase of the surface area of a solid

Manufacturing of a solid with a desired grain size

Pulping of resources

BORING

In machining, boring is the process of enlarging a hole that has already been drilled (or cast), by means of a single-point cutting tool (or of a boring head containing several such tools), for example as in boring a cannon barrel. Boring is used to achieve greater accuracy of the diameter of a hole, and can be used to cut a tapered hole. Boring can be viewed as the internal-diameter counterpart to turning, which cuts external diameters.

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IV. CONCLUSION

We have taken up this project as real challenge, as we were not experience in the field. We started our work on this project facing new hurdles initially.

After the completion of the project work we tried its working in our college machine shop and we were pleased to note that it does meet the requirements for what it is meant.

The maneuverability of the device is quite good and the handling is quite simple. For commercial purpose one can improve the efficiency of the device effectively by increasing the size of the device.

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