AUTOMATIC DRAINAGE CLEANING MACHINE

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ABSTRACT

In this project we proposed the concept of "AUTOMATIC DRAINAGE CLEANING SYSTEM", which replace the manual work of cleaning drainage by humans. AUTOMATIC DRAINAGE CLEANING SYSTEM (ADCS)proposed to overcome the real time problems. This system is used for automatic cleaning of drainage. This proposed systemuses an automatic drain cleaning system that lets fluid flow through it but catches large solid waste like bottles, plastic andaccumulates it. Labour cleaning drainage leads to a high risk of them catching infections or poisoning due to large amount ofwaste/chemical in them.so for reducing work of humans and analysing several problems, we proposed our project ADCS.

Keyword: Drainage Cleaning, Society

INTRODUCTION

The Automatic drainage cleaning system is used to clean thedrainage system automatically by the ADCS Machine, which is operated mechanically with the help of several arrangement of various components of machine and variouslinkages. The water flowing in drainage have various impurities which having plastic bottles, polythene, dirt and other solid waste. Due to blocking of drainage system we may face several problems in rainy seasons as well as normal days. Due to blocking of drainage we see that the wastes getoverflow on the roads which is a big problem mostly in rainy season.

So by introducing the Automatic drainage cleaning system we can eliminate the several problems as well as we can replace the human labour who clean these drainage and theyhaving high risk of catching infections. As we know that thedrainage is narrow width of 910mm approx. So we have to introduce the ADCS in between the width of drainage.

LITERATURE REVIEW

As we know the cleaning of water is our primary purpose so cleaning of water is done manually till now. When human clean gutters manually, then there are more health issue Which damage the human health. So we have invented a machine which clean gutters automatically and saves the human life and also various living organisms to many type of diseases. Ganesh U L, showed the usage of mechanical drainage cleaner to replace the manual work required for drainage cleaning system. Drainage pipes are very dirty. Sometimes it is harmful for human life while it is need for cleaning drainage system

James C. Conwell, G. E. Jhonson proposed the design and construction of a new test machineconfiguration that offers same advantages over the traditional one. The new machine and attendant instrumentation provide more realistic chain loading and allow link tension and roller sprocket impactmonitoring during normal operation.

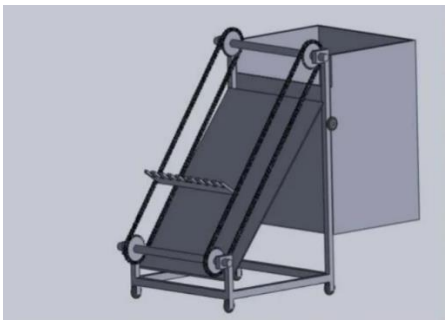
AIM & OBJECTIVES

1) These cleaners are easy cheapest way to fix drainage problems. Easyto operate, as no special skillis required.
2) Reduction of labor oriented method of cleaning, thus upgrading dignity of labor.
3) We can operate the system onsolar energy. Hence it will be cost effective.
4) Large amount of garbage will collect which can be remanufacturable

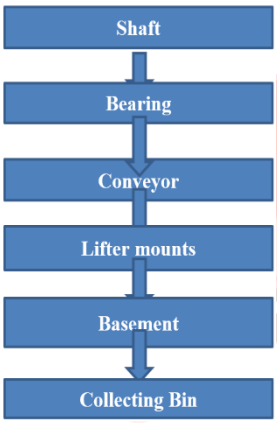
WORKING PRINCIPLE

The device is placed across drain so that only water flow through screen, the waste like bottles, plastic etc. Floating indrain are lifted by lifter which is attached with screen.Screen is connected to the shaft which is driven by chain with the help of DC motor.

When motor runs the chain start the circulation making screen with lifter to lift up waste, further it is connected to ahorizontal screening and waste stored in a container.

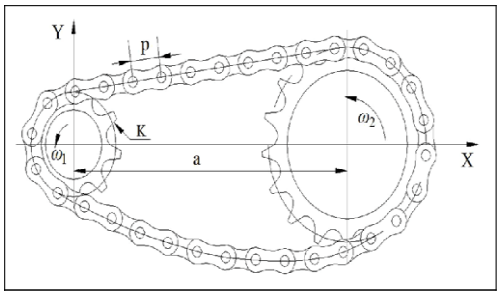


METHODOLOGY



MECHANISM

CHAIN DRIVE MECHANISM



A chain drive is a Mechanically operating system where we used different types of chains to transmit the power or for movement of somethings.Generally, a chain drive is used where the distance between the power produced and where it to be transferred is less, however, this is not applicable for all. In some cases, we can use a chain drive for longer distances power transfer.

In belt or rope drive we see there is some percent of slip occurs, but in the chain, there will be no slip. But this does not mean that 100% power is transmitted from one to another device due to friction loss some amount of power loss we can generally see.

In chain drive, the speed ratio remains constant which is a major advantage of chain drive and here there is no slippage and in case of belt drive there is slippage so speed ratio changes as per slippage.

RESULT & CONLUSION

In the treatment system of drainage, waste water control by the machine and the collecting bin to achieve automatic control of waste water treatment. Drainage from domestic and industries is treated through this project to meet the national emission standards, with stable operation, low cost and good effect. The cleaner will function more effectively during the heavier rains which has more volume of running water with garbage and high velocity.

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