



SEMI AUTOMATIC GUTTER CLEANINR DEVICE

¹Ms.Pratiksha Ghatage ,²Ms. Utkarsha Gaikwad, ³Mr.Abhinandan Patil,

⁴Ms.Smita Patil, ⁵ Mr.Vivek Shinde

¹Student,² Student,³ Student, ⁴Student,⁵ Student

¹Department of Mechanical Engineering,

¹D Y Patil Technical campus,Talsande, Kolhapur,India.

Abstract : This project is about replacing the manual work in drainage cleaning by automated System. Now a days, automation plays a vital role in all industrial applications. Yet, the Proper disposal of sewage from industries is still a challenging task. Drainage pipes Are been used for the disposal and unfortunately sometimes there may be loss of Human life while cleaning the blockage in the drainage pipes. In order to overcome the Problems in manual drain cleaning, we are implementing “SEMI AUTOMATIC GUTTER CLEANINR DEVICE”, to clean and control the drainage level.

Keywords:SEMI AUTOMATIC GUTTER CLEANINR DEVICE”,drainage pipes,automated, Drainage cleaning.

I. INTRODUCTION

Water is a basic necessity of humans and all living beings. There is aplenty of water on earth but that is not suitable for human use. Clean water ismore important if used for some purpose. The impurities present in water cancause hazardous and disease. As long as the draining system is considered thefunction of the main drainage system is to collect, transport and dispose of thewater through an outfall or outlet. Impurities in drainage water can be only likeemptybottles, polythenebags, papers

These impurities present in drainage water can cause blockage or the drainage system. The drainage system can be cleaned time to time manually or such a system can be designed that will automatically throw out wastages and will keep the water clean. This project is designed to keep clean the drainage system and helps

the smooth working of the system. This project automatically cleans the water in the drainage system each time any wastage appears and this form an efficient and easy way of cleaning the drainage system and preventing the blockage. It also reduces labor and improves the quality of water that is cleaned.

If the garbage are allowed to flow the will end up flowing down to recreational beaches used for tourism purposes making a scene not pleasurable to the eyes else these garbage flow to residential sites where they are burnt in awayofgettingridofthem,therebycausingclimatechange. Thedrainagesystems are cleaned when there is no water in them i.e.. When it is not raining, but when it is raining the drainage systems cannot be cleaned because of the harsh conditions of the rain which no one would volunteer to endure to ensuregarbagedoes not enter into thedrainagesystems.

II. MOTIVATION

The problem of water logging due to plastic, thermos cope and metal leads to pest growth and it fevers diseases like malaria, typhoid etc. This is unsafe for human life and hence idea of this project emerged. He objective of proposed project Is to design and fabricate and automated machine fordrainagecleaninginordertopreventhumansfromgettingaffectedbyvariousdiseases from the infectious microbes presenting sewage.



III. LITERATURE SURVEY

In today era cleaning of water is main and primary purpose. But cleaning of Water is done manually till now. When human cleans the gutters, sewage Manually then there will be lost of risk or health issue which damage human Health. So we have come with one automatic machine which cleans these all Sewage and gutters automatically without any help of labor, humans and risk of

These humans life is getting less.

1. R. Sathiyakala, explained E bucket (electronic bucket) use for Drainage cleaning system because E-bucket lifted a sewage and used Evaporation treatment for this sewage wet sewage

2. Ganesh U L, showed the usage of mechanical drainage cleaner to exchange The manual work required for drainage cleaning system. Drainage pipes are Very dirty. Sometimes it's harmful for human life while it's need for cleaning .To overcome this problem, they implemented mechanical semi Automated drainage water cleaner and so the water flow is efficient because of regular filtration of wastages with the help of that project. Different sorts of environment hazards reduced with the assistance of system machine.
3. Dr.k. kumaresan, explained about how manual work is converted to automated system. Drainage pipe using for disposal and it's going to be loss for human life while cleaning the blockage within the drainage pipes. To overcome this problem, they implemented "Automated Sewage (gutter) Cleaning Machine". They designed their project different way clearance of gaseous substance are treated separately therefore the flow of water efficiently. This project could also be developed with the complete utilization Men, machines, and materials and money. They made their project efficient And economical with the available resources. They used automation Technology related together with his application of mechanical, electronics, Computer-based systems to work and control production
4. Nitin Sall, explained flow of used water from homes, apartments, business Industries, commercial activities is called waste water. 300 and 400 L Wastage water are generated each person every day. So, using waste water Technology that removes instead of destroys a pollutant during a system.
5. James C. Conwell, G. E. Johnson, proposed the planning and construction Of replacement test machine configuration that gives same advantages over The normal one. The new machine and attendant instrumentation provide More realistic chain loading and permit link tension and roller sprocket Impact monitoring during normal operation. The incorporation of idle Sprocket allows independent adjustment of test on length and preload.
6. SD Rahul Bharadwaj, proposed with the automatic cleaning of waste water To prevent global warming and melting of glaciers. The results emphasize the Necessity of waste water treatment plants, through which the water is treated Before suspending in rivers. Firstly, power is generated and that same power is Used for waste water cleaning process.

7. Ndubuisi.C. Daniels, showed the drainage system cleaner machine used to Remove garbage and sewage automatically which will help to protect the Environment from different kinds of environmental hazards also control Water pollution. The system cleaner has three major parts which are the Propeller, the Cleaner and therefore the Pan all makes up for its effective Functioning.

IV. SCOPE

The future scope for semi-automatic gutter cleaning machines in India, particularly in villages, holds great promise. Here's a breakdown Of the potential:

Growing Awareness: As urbanization brings awareness about safety and home maintenance, The demand for efficient gutter cleaning solutions will rise in villages.

Labor Shortage: The scarcity of manual labor for such tasks can create a market for These machines as a viable alternative.

Government Initiatives: Government programs promoting rural sanitation and Infrastructure development could incentivize the adoption of these

Machines. Technological Advancements:

Affordability: Developments in low-cost motors, batteries, and materials can significantly Reduce the machines' production cost, making them more accessible in villages.

Sensor Integration: Sensors can automate debris detection, improve efficiency, and enhance safety By preventing overload.

Modular Design: Modular systems can allow customization for gutters of different sizes and Shapes, catering to the diverse housing styles in villages.

Remote Control Functionality: Remote control features can eliminate the need to climb ladders altogether, Maximizing safety for users.

Local Manufacturing and Service:

Job Creation: Local manufacturing of these machines can create employment opportunities in Villages and promote rural entrepreneurship.

Skill Development: Training programs can equip locals with the skills to maintain and repair these Machines, fostering a self-sustaining ecosystem.

Sharing Economy: Village cooperatives or shared service models can be established to allow Multiple households to access and utilize the machines cost-effectively. Overall Impact

V. CONCLUSION

The result shows that the material selection and the theoretical analysis is mostly similar to the analytical method. Thus, the results show that the design and analysis of the work is safe to be implemented.

The project is further discussed and developed for the convenient use of this machine which is suitable for the varying size of ditches and drainage pipes across of various countries with the help of pneumatic, leadscrew and other possible simple solutions.

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