

A Review Paper On Automated Drainage Cleaning System

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ABSTRACT

Water is a basic necessity of humans & all living beings. There is plenty of water on earth but that is not suitable for human use. Clean water is more important if used for some purpose. The impurities present in water can cause hazardous & disease. As long as the draining system is considered as the function of main drainage system is to collect, transport & disposed of the water through an outlet. Impurities in drainage water can be only like empty bottles, polythene bags, papers etc. this impurities present in drainage water can causes blockage or drainage system can be cleaned time to time manually or such a system can be designed that will automatically throughout wastage & will keep the water clean this project is designed to keep clean the drainage system and help the smooth working of the system. This project automatically cleans the water automatically clean the water in the drainage system is time any wastage appears and this form and efficient & easy way of cleaning the drainage system and preventing the blockage

Keywords: Drainage cleaner, floating waste

I. INTRODUCTION

It has been suggested in the prior art that the effectiveness of enzymatic drainage cleaner should be improved by including an effervescent couple in the composition. This effervescent couple consisting essentially of a weak organic acid, and the alkali or alkaline earth metal salt of carbonic acid such as crif carbonic acid, such as sodium by carbonate will react to generate carbon dioxide gas when it contacts water. The bubbles of carbon dioxide can tend to mechanically loosen and remove the particle of then deposit near the surface where have been attacked by the enzymes. The actions enable the enzymes to more effectively penetrate the deposit. The prior art effervescent couple, however steelhead, some disadvantages.

First, the effervescent couple started to generate copious quantities of carbon dioxide gas substantially immediately upon coming in contact with water.

A moveable cleaning system enables cleaning of relatively flat surfaces, and especially elevated and/or sloped and/or vertical surfaces without the use of personnel at the specific site of cleaning. System can be fully automated, with programming set to enable the system to clean an entire surface or structure (e.g., an office building or hotel) or allow system control by someone distal from or proximal to the direct point of application of the cleaning activity.

According to this invention, the conveying screw is hollow and is provided at its delivery end with a tightly fitting slid ably mounted torpedo pin which projects partially into the chamber in axial alignment with the screw.

A spring is also mounted in the bore of the screw in such a manner that one end of the spring engages the head of the torpedo pin and the other end of the spring engages a threaded plug adjust-ably mounted within the screw. Thus, the torpedo pin is urged by the spring in the direction of the chamber. Water is essential to life, for both plants and all living creatures; however it can be very invasive when it flows. When residential property experiences drainage issues, water can be a nuisance and actually cause a great deal of damage. Different drainage system problems, including puddling, pooling, and saturated soil, and even undirected downspout water, can destroy landscaping and turn a backyard into a swamp.

II. LITERATURE REVIEW

R. Sathiyakala 2016, said that the usage of mechanical drainage system 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 needed for cleaning drainage system. To overcome this problem, they implemented a mechanical semi – automated drainage water cleaner and so the water flow is efficient because of the regular filtration of waste with help of that project.

Mhael Okpara (2014) [2] reviewed about drainage cleaning to replace manual work to automated system because manually cleaning system it is harmful for human life and cleaning time, is more so to overcome this problem they implemented a design “automatic drainage water pump monitoring and control system using PLC and SCADA”. In this project the use of an efficient way to control the disposal of waste through regular treatment of disposal in different ways, toxic and non-toxic.

Yadav, D (2014) said that [3] today the advanced time has such a variety of advanced for making our life modern. Like that cleaning procedure is a likewise play a critical part. For example, our smart cleaning system does the residential reason cleaning flawlessly and keeps the mosquito away from the sewage by the way of intestinal sickness, influenza and so forth

illnesses are stay away from the future to robotization cleaning framework will be lies on each different house sewage cleaning framework.

Bharat, K. And G.a.MIHAILA,(2002),said that mechanization is an innovation worried with his utilization of mechanical, electronic and pc based framework to work control generation. This framework utilized to operate automatic sewage cleaning equipment. This venture might be created with the full use of men, machines, material and cash. Additionally we have taken after altogether the investigation of time movement and made our venture temperature and productive with the accessible assets.

This paper literature survey [5] in outcomes depends upon the automatic control of sewage treatment. It is not depend on the deposited sludge of the drainage system. The purpose of this paper is to design the mechanical drainage system, taking into account the various factors that might affect the functionality of the equipment.

karthikeyan explained flow of used water from homes, business, industry, and commercial activities are called waste water. 200 and 500 liter waste water are generated each person every day. so using waste water technology that removes, a pollutant in a drainage system.

S S Rattan explained a bucket use for draining system because bucket lifted sewage and used evaporation system for this sewage wet sewage was converted into dry matters, with the ARM board this process was performed. After this process they were add this waste a government without any kind of affection of the bacteria.

K Raghavendra(2015),explained [8] removes an unwanted phenomenon, by using chain drive simulation program. It is used as an alternative to or in combination with physical experiment. They formed a specific model of the marine engine chain drive for a large speed system. They used contact force method for simulation analysis. Performed a dynamic simulation of large marine engine chain drive.

K Mahadevan and Balveera reedy [9] proposed safe load for the chain and ability of the same to withstand the use of finite element modeling would be the core objective of the work. An existing chain link used for benchmarking the research work. The FEM method is used analyze the stress state of the elastic body with a given geometry, such as chain link.

Dr.K .Kumesaran m.e (2013)[10] showed the research was an assessment of drainage problem in the tropical environment of Ilorin, Nigeria. In order to achieve a philosophy of work, such a data have been sourced from direct field work. Such data include drainage dimensions, types of waste in drainage channels, problem of waste and technique for waste management.

III. CONCLUSION

By study of many literature review we conclude that Many specific empirical studies have been carried out and categories such as automatic drainage cleaning system and its automation have been studied to a great depth. We focus more on making the system in the drainage.

1. In the treatment system of drainage Waste water control by the motor, screw conveyer and sprocket, lifter, and the collecting to achieve automatic control of sewage waste water treatment.
2. The system can move in the drain to collect the floating waste so as to reduce human labour.
3. The cleaner functioned move effectively during the heavier rains which had more volume of running water with garbage and high velocity.

IV. REFERENCES

1. R.sathiyakala , Flora Grace, p. Maheshwari,s .Majitha bhanu , R.Mathu Laxmi vol . 4, Issue2, February 2016.
2. Department of civil engineering Michael Okpara university of agriculture Umudike Abia State March 2014.
3. Yadav, D. (2009).Garbage disposal plant mired in controversy. India Times, TNN, 19 Feb 2009.
4. 61 Bharat, K. And G.a.MIHAILA, when expert agree: using non-aliased experts to rank popular topics. ACM trains. Inf.syst., 20(1),(2002),pp.47-58.
5. International Refereed journal of engineering and science (IRJES) ISSN (online) 2319-183x, (print) 2319-1821 volume 3, issue 3(March 2014, pp.54-60).
6. International journal of innovative research in technology 2014 IJIRT volume 1 balachandra.G1, karthikeyan.s2, Elangovan,k3, and Diya. N4. 1,2,3B.E/EEE final year, Knowledge institute of technology, Salem, India4Assistant professor, Department of EEE,
7. Knowledge institute of technology, salem, India.
8. Theory of machinedepartment of mechanical engineering Regional engineering collage kurukshetra (2004).Publication: Tata McGraw-Hill publishing limited company.
9. Design of machine element (DME-2) by K Raghavendra, first edition 2015.
10. Design and data hand book for mechanical engineers by K Mahadevan and Balveera reedy. Fourth edition 2013.
11. Dr.K .Kumesaran m.e, PhD., Prakash S, Rajkumar. P, Sakhthivel. C,Sugumar. ISSN: 2349- 9362(iceit-2016).