WATER TANK CLEANING DEVICE

Dr. Jayati Chatterjee Mitra, Dept. of Chemistry

Dr. C.V. Raman University, Bilaspur

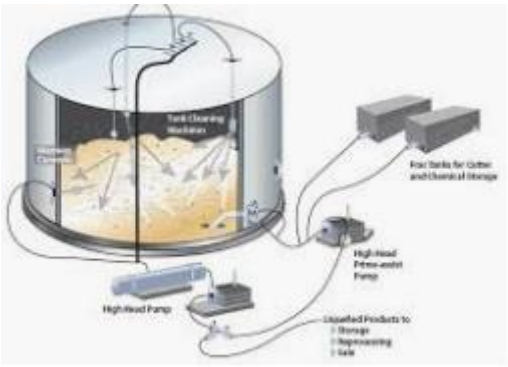
Abstract

The proposed invention relates to a device for a container cleaning device comprising a vessel for carrying cleaning solution for cleaning purpose, a body attached to the vessel for supporting the device, brushes associated with the body for cleaning inner surface of the container, a pipe connected to the vessel for transporting the cleaning solution for performing the cleaning process, at least two gear boxes interlinked with the brushes and the vessel.

Keywords: water tank, gear boxes, cleaning solution, vessel.

1. Introduction

Water is considered as one of most essential basic need of all living objects. Not only it quenches our thirst, but is also beneficial as far as cooking, personal hygiene, and cleaning is concerned [1]. While it is true that water replenishes us and is useful in removing toxin substances from our body, it also causes many illnesses if one consumes water in its unclean form [2]. That is why it is mandatory to clean water reservoir installed in our houses or work places after definite interval of time [3]. If the water reservoirs are not cleaned properly after certain time it may lead to the formation of algae around an internal surface and boundaries of the reservoir, thus infecting the water [4]. Usually, water reservoir cleaning was performed manually using a cleaning solution and using a scrubber or foam. To remove unwanted impurities and free the reservoir surface from dirt, the surface to be washed was continually rubbed with the scrubber [5].



2. Working

The proposed invention relates to a water tank container cleaning device and a method for cleaning container by eliminating unwanted chemical substances from bottom surface and boundaries of the container with movement of brushes on the affected surfaces of the container [6]. The pipe is connected to a vessel for transferring cleaning solution for performing effective cleaning of bottom surfaces and boundaries of the container. A set of brushes are associated with the body for moving the device to clean an internal surface of the storage container [7]. At least two gear boxes are interlinked with each other and are further coupled to the handle and the brushes for transferring power from the handle to the brushes for movement of brushes along the surface of the container [8].

3. Result and conclusion

The device is designed for removing the unwanted substances such as algae formed around the internal surface of the container. As algae act as a common culprit in water safety, and causes harvested liquid supply to became unstable. With the up and down movement of the brushes the device is helpful in eliminating unwanted substances from the internal surface of the container to make stored liquid fit for personal hygiene

Reference

[1] J. Oca and I. Masalo, “Flow pattern in aquaculture circular tanks: Influence of flow rate, water depth, and water inlet & outlet features,” *Aquac. Eng.*, 2013.

[2] M. Van Der Sterren, A. Rahman, and G. R. Dennis, “Quality and quantity monitoring of five rainwater tanks in Western Sydney, Australia,” *J. Environ. Eng. (United States)*, 2013.

[3] A. Fernández-García, L. Álvarez-Rodrigo, L. Martínez-Arcos, R. Aguiar, and J. M. Márquez-Payés, “Study of different cleaning methods for solar reflectors used in CSP plants,” in *Energy Procedia*, 2014.

[4] F. Moerman, P. Rizoulières, and F. A. Majoor, “Cleaning in place (CIP) in food processing,” in *Hygiene in Food Processing: Principles and Practice: Second Edition*, 2013.

[5] P. H. Dobrowksy, D. Mannel, M. De Kwaadsteniet, H. Prozesky, W. Khan, and T. E. Cloete, “Quality assessment and primary uses of harvested rainwater in Kleinmond, South Africa,” *Water SA*, 2014.

[6] J. Bracamonte, J. Parada, J. Dimas, and M. Baritto, “Effect of the collector tilt angle on thermal efficiency and stratification of passive water in glass evacuated tube solar water heater,” *Appl. Energy*, 2015.

[7] N. Sultana, S. Akib, M. Aqeel Ashraf, and M. Roseli Zainal Abidin, “Quality assessment of harvested rainwater from green roofs under tropical climate,” *Desalin. Water Treat.*, vol. 57, no. 1, pp. 75–82, 2016.

[8] P. J. Woolcock and R. C. Brown, “A review of cleaning technologies for biomass-derived syngas,” *Biomass and Bioenergy*. 2013.