Combined model of Incinerator and Dispenser for sanitary napkins

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Abstract

Problem Identification: Women with marginalized communities often lack access to affordable, quality menstrual hygiene products, leading to unhygienic practices and increased infection risk. Insufficient menstrual hygines leads to serious health issues, which directly affects the health of women's, insufficient sanitation facilities, leads to grubby public toilets and public places which leads to unsafe and unhygienic practices during menstruation. Poor menstrual hygiene practices, including unclean materials and insufficient product change, can heighten the likelihood of urinary and reproductive tract infections and other health issues. Menstrual hygiene products can be costly for some women, especially in rural or remote areas, and may not be easily accessible. Cultural and religious beliefs can influence poor menstrual hygiene practices and waste disposal methods, emphasizing the need to respect cultural diversity while promoting safe and hygienic practices.

Approach of This Project The project aim to design a combined model for Incineration and Dispenser for Sanitary napkins. Which help not only reducing the infection cause to women's but also to keep clean and Green Environment. The existing model available in market is having two different unit for the same which required two different supply and hence increase the consumption of electricity. The existing model is also not economical and faces the issue of space.

The proposed model is a combined unit for incineration and dispenser with a single power supply. Hence the model results into a Combine, Compact, Economical and Environmental friendly unit.

For incineration Ni-chrome heating coil is been used and through Nickel coated spring dispenser action is carried out. Due to compact size, easily access and single power supply with more efficiency then regular model, this model are used in Schools, Colleges, Train compartments, Railway stations, Public toilets for the betterment of society, and also gives a best message toward "Swachh Bharat Mission".

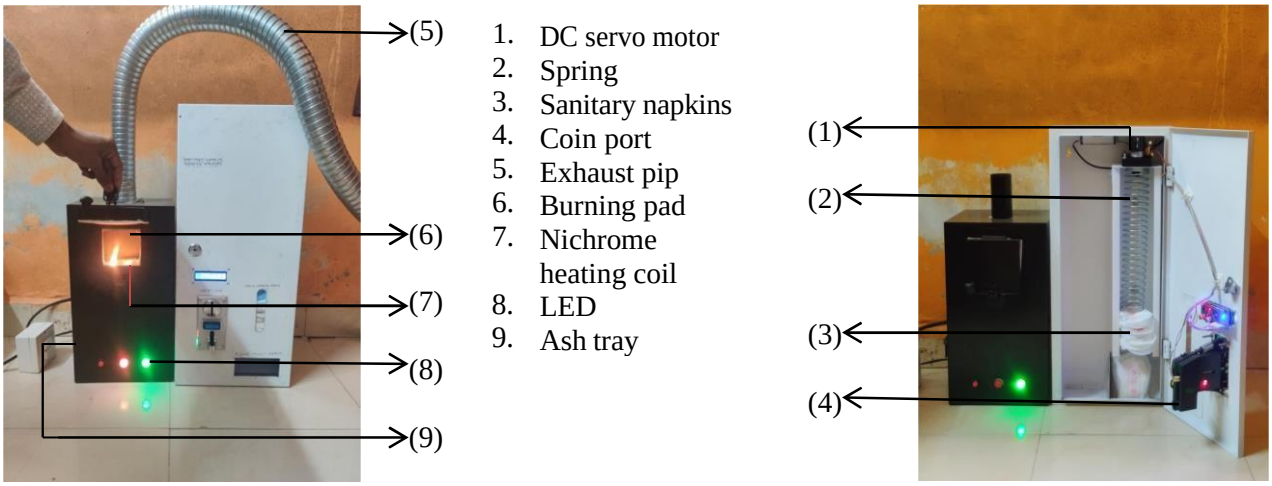

Fig 1: Combined model of incinerator and dispenser for sanitary napkins.

How Do We Consider this Project Successful: We are able to work our model at single power Supply which fulfill our first criteria of “Energy Saving” Secondly an combine model is prepare which is Compact in nature, small in size, and cost efficient when model is combine one can dispense & Incinerate sanitary pad in single unit which fulfill our motto of "Swachh Bharat Abhiyan".

How Your Results Will Impact the World: The project aims to provide easy access to sanitary napkins during emergencies, preventing women from facing issues and maintaining cleanliness through proper disposal methods. Non-biodegradable napkins create plastic waste, posing health risks and contaminating the environment. A single machine unit will provide new sanitary napkins and dispose of used ones, contributing to personal hygiene and pollution-free environments. It's cost-effective, easy to handle, and meets municipal solid waste management guidelines.

Result:

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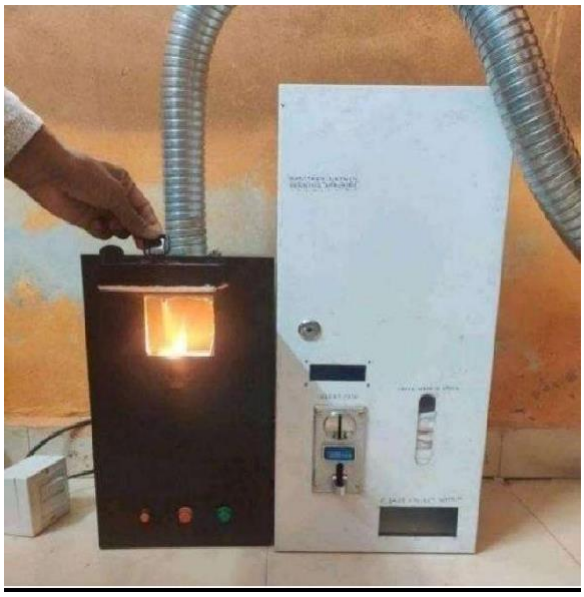

Fig. 2 Process of Incineration of used sanitary napkins.

- In dispenser Place the coin into the coin port (Rs.5). When the Arduino receives a signal from the IR sensor indicating the existence of change, user can retrieve the fresh sanitary napkins from the collection port.
- When the sanitary napkin is placed on the incinerator system's heating coil, the system uses an ultrasonic sensor to detect whether any pads are available. Once this is done, the sanitary napkin successfully begins to burn. The pad is successfully destroyed and turned into ash after around 8 to 10 minutes. This ash work as a fertilizer for plant.
- The ash that is produced after disposal can be washed out or used as plant manure.

Conclusion:

- The integration of an incinerator provides a safe and efficient means of disposing of used sanitary napkins, eliminating the environmental and health hazards associated with improper disposal methods such as flushing or littering.
- By incinerating the waste on-site, the risk of contamination and the spread of diseases is significantly reduced, contributing to a cleaner and healthier environment.
- Overall, the combined model of an incinerator and dispenser for sanitary napkins offers a comprehensive solution that addresses both the environmental and social dimensions of menstrual hygiene management.