



## Design and Fabrication of Sanitary Pad Disposal Machine

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**Abstract** – Sanitary pad disposal machine by burning process is a device designed to safely and efficiently dispose of used sanitary pads. The machine operates by burning the pads at high temperatures, reducing them to ash and eliminating any bacteria or odour. The process is environmentally friendly, as the ash can be safely disposed of in regular waste bins. The machine is easy to use and does not require any special training or expertise. It is particularly useful in public restrooms, schools, and other facilities where many people may need to dispose of sanitary pads. The use of such machines can help promote hygiene and sanitation, while also reducing the environmental impact of sanitary pad disposal. This machine is economically cheaper, small in size. It will be highly efficient particularly in areas where waste management infrastructure is lacking or inadequate. Overall, the sanitary pad disposal machine by burning process is a revolutionary innovation that addresses a critical issue of menstrual hygiene management, improving the health and well-being of women and girls.

**Keywords** – Sanitary pad disposal, Environmentally Friendly, Feminine Hygiene, Disposal Unit, Automated Disposal

### I. INTRODUCTION

In Sanitary pad disposal machines are devices designed to provide a hygienic and convenient solution for the disposal of menstrual pads. Menstrual hygiene is a critical issue for women worldwide, and the proper disposal of menstrual products is essential to maintain a clean and sanitary environment. Many women struggle with the challenges of disposing of their menstrual products in public restrooms, especially in areas where facilities are limited or inadequate. Sanitary pad disposal machines are typically installed in public restrooms, such as schools, offices, hospitals, and other public spaces. These machines offer a discreet and convenient option for women to dispose of their menstrual products without having to carry them around or worry about odor and cleanliness. The machines are usually wall-mounted and equipped with a bin for collecting used pads.

### II. LITERATURE REVIEW

Megha M V, M A Chinnamma, Anitha K Subhash , this authors the indecorous disposal of menstrual waste is an handicap for public hygiene. stacks of aseptic towels with a large quantum of complaint causing bacteria on them pose a significant trouble to the public hygiene in the girding area. Incineration is one of the stylish styles among colorful disposal installations to menstrual hankie pads waste. perpetration of ultramodern ways like incineration can help in safe disposal of menstrual pads and to promote public hygiene. Then the heat is produced by incinerating the aseptic hankie waste which is ditched into incinerator

Prof. Somnath Wategaonkar<sup>1</sup> , Shreyash K. Narayane<sup>2</sup> , Anoop R. Shetty<sup>3</sup> , Prajesh S. Shirsolkar<sup>4</sup> , Shivraj B. Yadav<sup>5</sup> This author paper focus on the disposal of aseptic towels has been a issue, especially in public installations similar as lavatories. Attempts to dispose of these particulars by flushing them down the restroom have redounded in clogging of the restroom or of the plumbing associated therewith. While attempts have been made to break the problem of disposing of aseptic waste, and mortal dirt, by incinerator systems, no previous attempts have been made to satisfactorily dispose of aseptic towels in similar systems. likewise, the systems of the previous art concerned with aseptic waste disposal in general have been set up to be clumsy in construction and too expensive for practical adaption to dispose of aseptic towels in public lavatories. This design focuses on working the issues of these incinerators by making them more smart and effective. We can overcome these problems by making the machine less heavy and easy to use as well as the machine should be terrain friendly.

Rajanbir Kaur, Kanwaljit Kaur, And Rajinder Kaur, this author paper deals with Period and menstrual practices still face numerous social, artistic, and religious restrictions which are a big hedge in the path of menstrual hygiene operation. In numerous corridor of the country especially in pastoral areas girls aren't prepared and apprehensive about period so they face numerous difculties and challenges at home, seminaries, and work places. While reviewing literature, we set up that little, inaccurate, or deficient knowledge about period is a great interference in the path of particular and menstrual hygiene operation. Girls and women have veritably less or no knowledge about reproductive tract infections caused due to ignorance of particular hygiene during period time. In pastoral areas, women don't have access to aseptic products or they know veritably little about the types and system of using them or are unfit to aford similar products due to high cost. So, they substantially calculate on applicable cloth pads which they wash and use again G. S. Waghmare , Pratik Dhake , Poonam Andhale, Snehal Patil , Dattatray Bodke, this author Paper

mainly focus on the Women in India are still shy of buying towels from medical shops and other stores. A result to this problem is installing hankie allocating system. It's a kind of motorized aseptic hankie storehouse system which can be fluently penetrated by the people in exigency without approaching any drugstore. It's a microcontroller and motor- grounded system to apportion the drugs when penetrated by the stoner through an input event. The main debit of the being coin operated allocating system is that there's only specific size and weight of coin accepted so our work aims at installing an automatic hankie dispenser in toilets and places like long roadways, remote ethnical areas by using online payment gateway. Also increase number of aseptic towels vacuity in the system at formerly, so we do n't need to fill towels in the system regularly.

Prof. Ms. S. S. Tavse, Vishakha Gaikwad, Aishwarya Khangaonkar, Vaibhavi Kavathekar this authors focuses on Educating and creating mindfulness for the use of Sanitary Napkins is of high need. The proposed system combines both allocating and disposal machines for aseptic towels. The apportion machine consists of four corridor, they are, Coin Acceptor- Coin seeing unit, the motor unit, the coin rejection unit and the pad allocating unit. The disposal machine consists of relay, furnace, sludge and ash charger. The whole operation works on Arduino module. The automatic fault discovery and suggestion medium identifies the nature of fault passed in the system and automatically intimates the service labor force about the fault.

K. Samba Siva Rao, A. Dhineshkumar, A. Jeeva, C. Sathish and T. Sujith Kumar, this author study Disposal of aseptic towels is a global problem. The towels are generally inclined either by flushing them in the rainspouts or by burning them. Flushing the hankie in rainspouts results in clogging of drain line and associated plumbing problems. Burning the aseptic towels frequently causes air and soil pollution. ideal To overcome this problem, a solar grounded aseptic hankie disposal has been proposed, which burns the hankie to ashes and ensures pollution is minimum. To make the disposal unit more stoner friendly, voice commands are used, which guides the stoner through the process. As this system is aimed at pastoral corridor of a country, it's powered by solar energy, which is available in cornucopia. Results When the hankie is dropped in the disposal system, it's burnt in the furnace. The bank emitted during the process contains carbon dioxide and is removed using CO2 sludge. The whole system is controlled by jeer pi. Conclusion Performance of this system is anatomized by means of time taken for the hankie to be burnt and converted to ashes. It was observed that when the input force voltage was lower than 12 V, it took a long time for the hankie to be burnt to ashes. When 12V force was given it took only 50 Sec for the hankie to turn to ashes. As CO2 sludge was used then, the pollution was minimum. therefore the proposed work helps the people to dispose the hankie in a simple way and creates a pollution free terrain.

### III. MODEL DESIGN

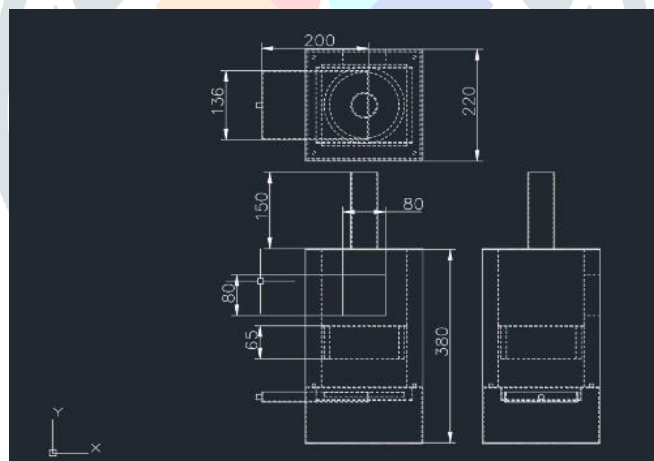


Fig.1. Isometric view

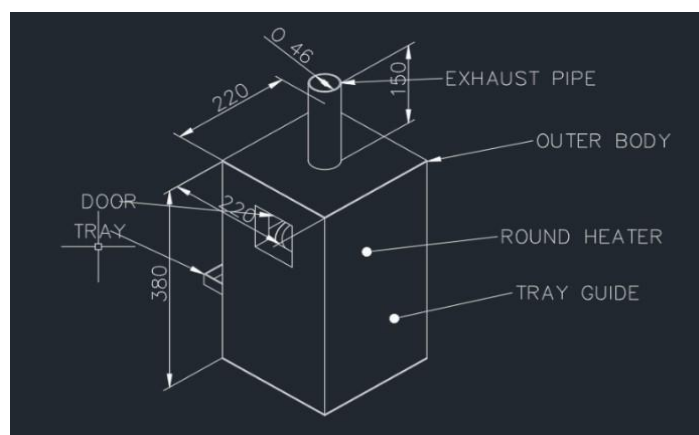


FIG 2. OUTER BODY DESIGN

#### IV. EXPERIMENTAL SETUP

##### A. RAW MATERIAL

###### MILD STEEL (Pipe & sheet)

Mild steel is used in manufacturing of different components of disposal system. It is used to make drawer, drawer guide, outer body and exhaust pipe of the machine. The use of mild steel in the construction of the combustion chamber of the sanitary pad disposal machine using a burning process is an excellent choice due to its high thermal conductivity, durability, strength, and cost-effectiveness.



FIG .3. Ash Drawer



fig.4. Drawer guide

##### B. STAINLESS STEEL

It is used in manufacturing of round heater. Round heater burns the sanitary pads and convert it in to ashes. The round heater is typically located inside the disposal machine and is designed to reach high temperatures, usually around degrees Celsius, which is sufficient to burn the pads completely.



Fig.5. Heating Element

##### C. ELECTRICAL COMPONENTS

**TIMER IC CONTROL:** The timer IC control can be used to regulate the burning process, ensuring that the pads are burnt for the appropriate amount of time, and that the machine does not overheat or cause any safety hazards.

**MCB SINGLE PHASE:** MCB (Miniature Circuit Breaker) is a safety device that protects an electrical circuit from overloading and short circuits.

**ON/OFF SWITCH:** It is used to turn on or off the machine.

#### D. WORKING:

STEP 1: The user opens the machine's lid and places the used sanitary pad into the disposal chamber. STEP 2: The machine's sensor detects the presence of the pad and activates the heating element.

STEP 3: The heating element heats the pad to a high temperature, typically around 350-400 degrees Celsius. STEP 4: The pad is completely incinerated, and the resulting ash falls into a collection tray.

STEP 5: The machine's filter system captures any smoke or fumes generated during the incineration process, ensuring that the air remains clean.

STEP 6: The collection tray can be easily removed and emptied periodically, typically after several uses or at the end of each day.

#### V. EXPERIMENTAL RESULT AND DISCUSSION

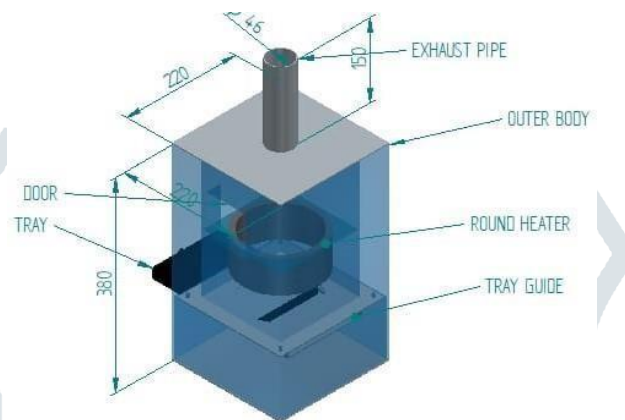


Fig 6. 3D View of Model



Fig.7. Model

#### VI. CONCLUSION

Sanitary pad disposal machines can be a convenient and hygienic solution for disposing of used sanitary pads in public restrooms, particularly in areas where proper sanitation infrastructure is limited or non-existent. These machines typically use a combination of heat and chemicals to effectively sterilize and dispose of used pads in an environmentally friendly manner. However, the effectiveness and practicality of these machines can vary depending on a number of factors, including the availability of electricity, the cost and maintenance requirements of the machines, and the cultural attitudes towards menstrual hygiene and sanitation. In addition, it is important to ensure that any sanitary pad disposal machines are designed and implemented with the needs and preferences of users in mind, including considerations of privacy, accessibility, and user-

friendliness. Overall, while sanitary pad disposal machines may offer a promising solution for addressing menstrual hygiene management in public spaces, they should be evaluated on a case-by-case basis to determine their feasibility and effectiveness in a given context.

#### ACKNOWLEDGMENT

I take this opportunity to thank all those who have contributed in successful completion of this research work. I would like to express my sincere thanks to my guide Prof. S. S. Waybase who have encouraged me to work on this topic and provided valuable guidance wherever required. I also extend my gratitude to Prof. T. S. Sargar (H.O.D Mechanical Department) who has provided facilities to explore the subject with more enthusiasm.

I express my immense pleasure and thankfulness to all the teachers and staff of the Department of Mechanical Engineering of Smt. Kashibai Navale College of Engineering for their co-operation and support.

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