

Design and Implementation Of Bar (Solid) Soap Shaver Dispenser without Electronic Circuit

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Abstract: Hygiene refers to the practices conducive to maintaining health and preventing disease especially through cleanliness such as washing hands, coughing in the elbow, etc. During the Covid-19 pandemic, hand washing is a core preventive measure in the spread of the disease. However, in order to enhance hygiene, using of soap for washing hands is preferable. In this case, bar (solid) soap is given priority as it is cheaper compared to liquid soap; But the challenge is that people come into contact with the soap which may lead to further spread of the disease in case of an infected person(s). And also stealing of the soap since it's in an open place. Therefore, a bar soap shaver dispenser is suggested for observation of proper hygiene and security. In this case, a metallic lockable container with a grater at the base (this is for shaving the bar soap into soap flakes) is to be mounted on the hand washing station such that a person(s) washing hands can access soap but does not come into contact with it. With bar soap shaver dispenser mounted onto the hand washing station, when you place your hand underneath and push the lever, it grates a bar of soap into little/tiny flakes that easily dissolve into lather while scrubbing your hands with water. It has a pepper mill-like base which grates and dispense soap flakes from the bottom.

Keywords: Bar Soap, Shaver, Hygiene, Dispenser, Soap flakes, Metal, Hand washing station.

1.0 Introduction

Soap is the traditional washing compound made from oil fats and caustic alkali. It is an item of daily necessity as cleaning agent. There are few specialty soaps like the washing soaps, castile soaps, sandal soap, especially flavored soaps, medicated soaps, toilet soaps etc. Soap is one of the oldest chemical produced over two thousand years ago by saponification animal fats with the ashes from plants. Although soap are mainly used as surfactant for washing, bathing cleaning, but they are also being used in textile spinning and as important constituent of lubricating grease. Now soap and detergent have become integral part of our society.

Today with increase in hand wash all around the world, demand for solid soaps products expected to increase because consumers are moving up towards premium products. With increasing awareness of hygienic standards, the market for the Soap is growing at a rate higher than 8% annually. People have become more creative in trying to find new ways in which they can make soap either for domestic use or commercial purposes.

Bar soap shaver Dispenser is a personal or public care product which includes solid soap and shaver dispenser. It is generally used for washing hands which can be found at the most homes, toilet or restaurant and hand washing stations. The main objective of this research paper is to design and implement a bar soap shaver dispenser prototype. An additional function may be adapted to the current bar shaver soap dispenser to enhance the ability of the soap dispenser in order to meet the current demand.

1.1 Problem Statement:

Most hand washing stations are public and thus soap is placed in an open bowl (container) for easy access by the people as a way of observing proper hygiene; But in this case, people come in direct contact with soap one after the other which leads to contamination of the soap hence spread of the disease in case of infected person(s). The other issue is that, since this soap is in an open place, it is sometimes stolen by the people or even wasted. And in case of rain, the soap is further wasted as it is drenched and becomes very slippery since it is not in a lockable container which could protect it from the rain. Hence, the need for a bar soap shaver dispenser which is locally made at a low cost, easy to use and lockable and there is no contact with the soap.

1.2 Objectives

The main objective of this research paper is to design and implement a low cost bar soap shaver dispenser without any electronic circuit.

- ❖ To enhances the ability and effectiveness of a solid soap shaver dispenser that can suit the usage environment
- ❖ To design and implement a solid soap shaver dispenser that can meet market demand

1.3 The Design Bar Soap Shaver Dispenser

The bar soap shaver dispenser is designed to fit most bar soap sizes and is constructed using a metallic housing (casing) with a lockable part, kitchen grater that shaves flakes of a high-quality bar of soap, metal spring that presses a bar of soap onto a spring-loaded grater that the user pushes to shave off flakes that fall gently from the dispenser and bolts and nuts that is used to attach the bar soap shaver dispenser to the washing hand station or in the wall. Soap Flaker encourages the usage of bar soaps by dispensing tiny flakes. This minimizes the wastage of tiny soap pieces. It is also more hygienic as it removes the sharing of bar soaps by multiple hands. It is made of environmentally friendly smooth metallic housing to make the product more sustainable and secure. These easy to use dispensers turn the bar soap into beautiful flakes that easily dissolves in water and leave a sensational fragrance in your hands. It is a great breakthrough, not only it is one of the eco-friendly ways of, but it is also easy in terms of logistic.

1.4 The Hardware Materials include:

- Metal plate
- Metal square pipe
- Metal spring
- Kitchen grater
- Bolts and Nuts
- Metal rod

1.5 Design Sketch Overview

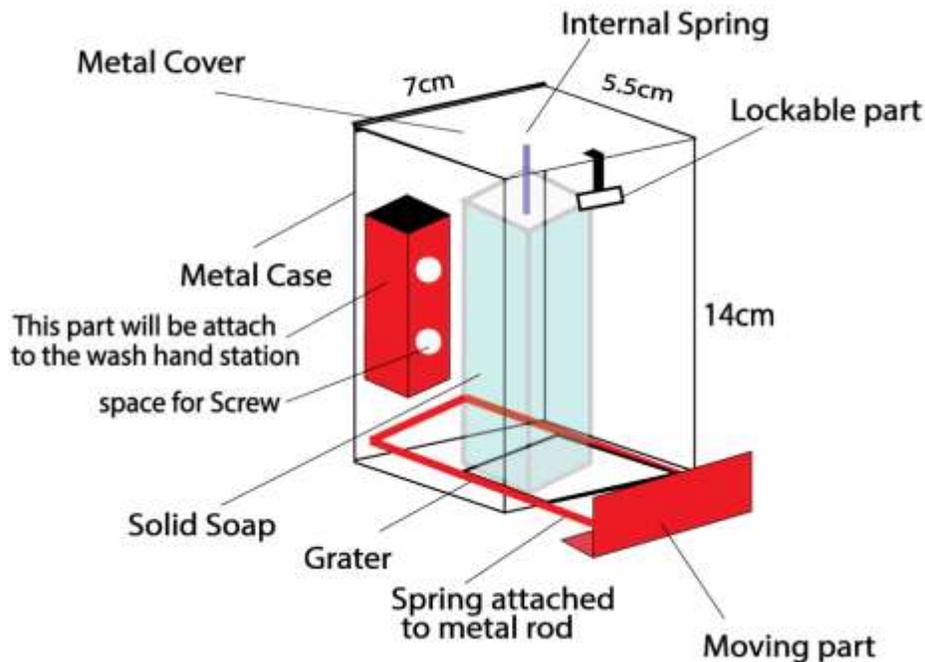


Fig1. The sketch view of the bar soap shaver dispenser

1.6 Design Overview

The following figure 2 shows the entire overview or the structure of the bar soap shaver dispenser.



Fig2. The entire view of the bar soap shaver dispenser

1.7 Result

After you place your hand underneath and push the lever, the soap shaver grates a bar of soap into little/tiny flakes that easily dissolve into lather while scrubbing your hands with water.

Below are the pictorial results.



Fig3. The result of the bar soap shaver dispenser

1.8 Conclusion

This solid soap dispenser is affordable and easily operated, so that anyone can make use of it. With the bolts and nuts, it can be attached to the hand washing stations. It can be concluded here that the solid soap dispenser has been successfully implemented and the aim is achieved without any deviations.

References

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