



iJRASET

International Journal For Research in
Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 10 Issue: III Month of publication: March 2022

DOI: <https://doi.org/10.22214/ijraset.2022.40795>

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The Enchanting Swab Cleaner

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Abstract: *Cleaning residences and the environment has become more difficult due to today's hectic routine. There are cleaners in the market now that demand humans to bend and remove spots from the floor by sprinkling their liquid to clean it. As a result, there is a pressing need to implement a cleaner that is as efficient as possible.*

This project has used a cost-effective way for cleaning the desired region. Hazardous locations can be cleaned using this cleanser, reducing human risks. This is accomplished by incorporating a new concept into an existing one. A pipe is attached to the lip of the bottle by the cleaner's design. Which of the following will be

Which will be aided by the motor at the end of the pipe, which will pressurise the liquid and sprinkle it where it is needed.

When used with a detergent cleaner, the microfiber method removed more bacteria than cotton string mops. The addition of a disinfectant had no effect on the microfibre system's germ removal. When a cotton string mop was employed, however, the use of disinfectant greatly improved germ elimination (95 percent vs 68 percent, respectively). When compared to a traditional view system, the testing results utilising a scale model show that the proposed view system can reduce work time, stoppage time, and help operators swap views more frequently and relieve their concentration from a single view. These findings imply that the proposed view system has the potential to improve productivity.

The goal of this study was to evaluate the upper limb's musculoskeletal risk variables (repetitions, posture, and forces) during domestic floor mopping duties.

I. INTRODCUTION

A mop is used for "wet cleaning" floors, which includes soaping, water washing, rinsing, and soaking up excess moisture. Some mops come with sponges attached to the end of a stick, while others use cloths, yarn, or fibres. A inquest is attached to some mops to assist in inquesting out excess water. Mops are typically designed to be used with water and soap, but there are also "dry mopping" mops that pick up dust and dirt without the use of liquid. Some newer mops have disposable cleaning parts.

Floor mopping with a mop stick is a cleaning task that requires repetitive upper-extremity movements.

The assignment necessitates asymmetric hand movement on both sides.

The mop is directed by the upper hand, while it is driven by the lower hand. Cleaning activity is linked to a high physical load, mental disturbance, societal stigma, and psychosocial pressures, according to a comprehensive review.

As it became increasingly vital to live a healthy lifestyle and maintain a germ-free environment during the time of Covid, I developed sanitization techniques. Cleaning is required these days to keep the environment around us clean and germ-free. And for cleaning, we must do some labour, such as changing the water several times, replacing dirty water with clean water, and reducing all of these things. Using the mop cleaner with bucket is more helpful rather than spray cleaners as again and again we have to clean the yarn as we are done with one room/area in spray cleaners but it's the case with bucket mop cleaners. People with back pain can also use this mop because they don't have to twist. Splash mops are speedier since you don't have to wring them out as much and you don't have to carry the liquid all the time with you during mopping activity; instead, you fill a little liquid tank on the pole.

As a result, we'll be able to use these clean cleaners to make our jobs easier.

To assist reduce the transmission of germs in hospital surroundings, good hygiene procedures based on surface washing are recommended.

Mechanical floor cleaning removes organic soil and filth that promotes bacterial growth as well as some of the existing flora. However, the floor is infected with new microorganisms within a few hours. We compared four cleaning methods: dry, spray, moist, and wet mopping. Sweep Classic MicroTechno mop pad was utilised. Between rooms, all cleaning tools (cart, rack, soap bottles, etc.) were cleaned, as were buckets, soap bottles, and mops. On our way to a more sustainable future, cleaner technologies are becoming increasingly vital. The current work is based on contributions from a special issue dedicated to the subject.

The current study builds on contributions from a special issue devoted to the four pillars of sustainable energy development.

Under the smart paradigm, digitalization and improved control ideas are supposed to speed up integration. As decarbonization technology improves and becomes more marketable, the emphasis is shifting to the social dimension of sustainability.



II. METHODOLOGY

Cleaning activities were carried out with an aluminium alloy mop with a removable microfiber yarn head. The mop handle's height ranged from 1 to 1.96 metres, with a rubber grip at the top.

The demand in society for more benefits at a lower cost has resulted in the introduction of new cleaning equipment and processes. Simultaneously, boredom and working hours have increased, while the number of cleaners has decreased. A recent survey indicated a significant prevalence of rheumatic problems of the shoulder and neck..

In light of these findings, the physical strain involved in two of the most prevalent jobs - mopping and swabbing - was assessed as part of the foundation for job redesign. Six experienced, healthy female cleaners (20-41 years old) were evaluated in the study. For 1 hour, the experimental job comprised of continuous swabbing and mopping of a 16 sq m area. The subjects were instructed to keep working at their normal, self-selected pace. Heart rate recordings and subjective weariness evaluations were used to assess the physical strain. Vocational electromyography was used to assess muscular strain and tiredness. Swabbing was shown to be completed at a 50% slower pace than mopping, despite the fact that swabbing had a much higher rate of weariness.

III. RESEARCH AND FINDINGS

The following are some possible practical implications:

Both mopping and swabbing should probably not be done for long periods of time without rest periods in between.

- 1) Dry mopping: Sweep 50 cm with a dry micro mop made of 100% microfiber. A clean, dry, new mop was used each time.
- 2) Spray mopping: Sweep 50 cm with a dry micro mop made of 95 percent microfiber (100 percent polyester fibre). Before washing, 200 mL water with soap was applied to the floor.
- 3) Moist mopping: Sweep 50 cm, moisten micro mop after washing at 85°C and centrifugation for 5 minutes, place in a clean plastic bag and store in the refrigerator until the next morning.
- 4) Wet mopping: Blue Sweep mop, 50% polyester and 50% viscose. Before washing over the area, the mop was soaked with 3 L soap water 40C, then dry mopped over the same area, but inside the wet region.

A. You Can Check Out The Details About Simple Mop Cleaner

<https://www.amazon.com/Hurricane-Cleaning-BulbHead-Hardwood-Cleaner/dp/B01N1YGFC8>

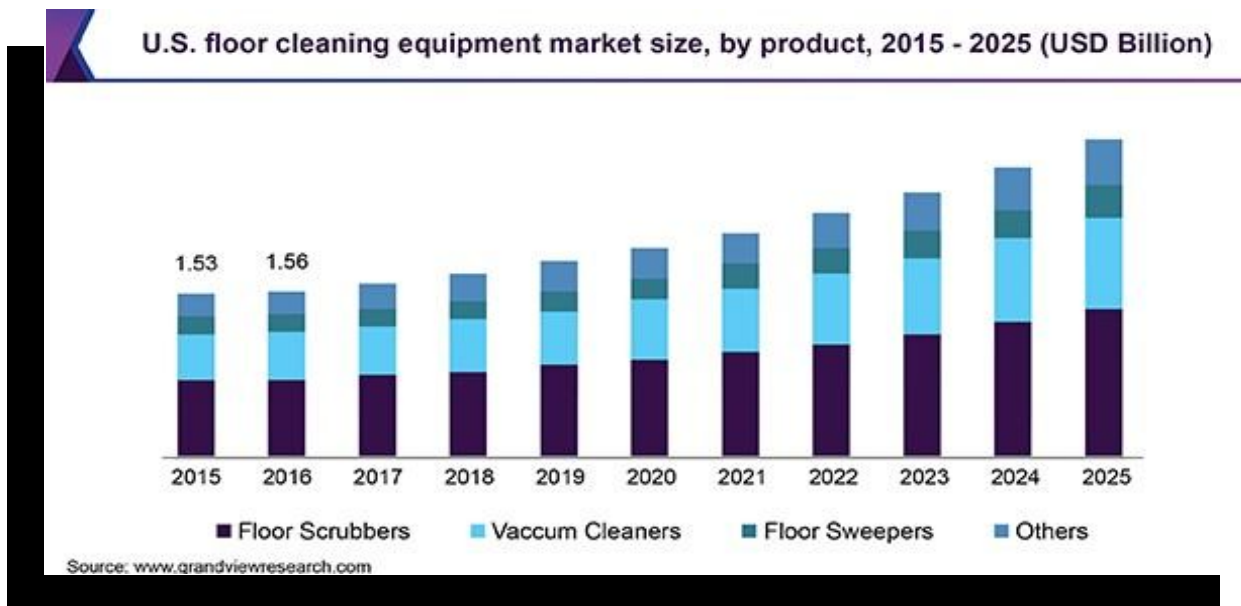


B. As Well You Can Have A Look At Spray Mop Cleaner

https://www.amazon.in/dp/B08VNKRWHK/ref=cm_sw_r_apan_glt_i_EH7JSMAD7521HN4B4D2?_encoding=UTF8&psc=1



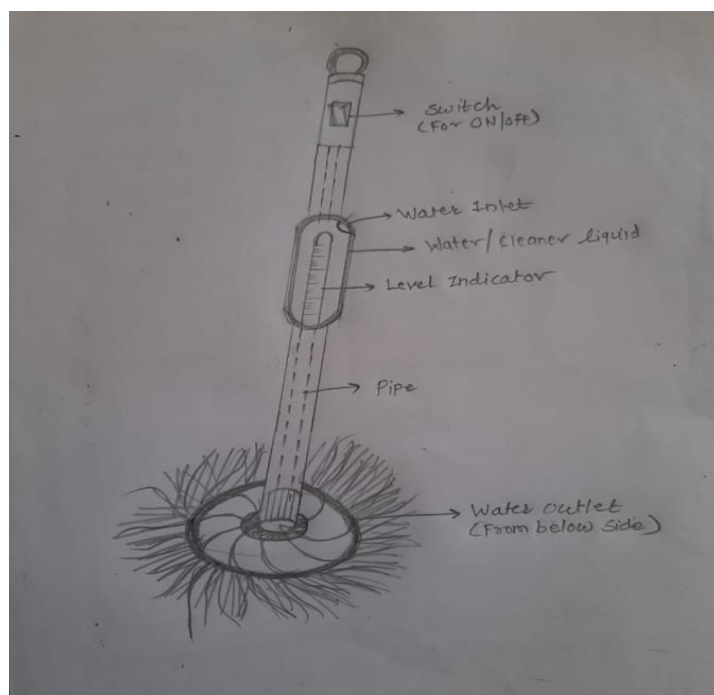
MOST CONSUMERS FEEL THAT CLEANING THEIR HOUSE FLOOR TWICE A DAY, WILL KEEP THEM 'SAFER' especially in covid time .many people turned very conscious about floor. The graph below depicts the prevalence of various mop cleaners in the United States.



IV. RESEARCH AND GAP

In today's world we all see to minimise our work to save our time. Our mini project is based on the same moto therefore we merged two existing mop cleaner into one.

Our mop cleaner is designed in such a way that it will reduce the work of the user to bend and specially remove the spots from the floors which is really one of the heavy task felt by the person. a trigger will be present near the head of the rod which is internally connected to the water case which is lying nearly in the mid of the mop rod. whenever the user will press the trigger the opening of water case will allow the liquid to flow to the end of the rod where the sprinkler is present inside the cleaner yarn portion from where the liquid will be sprinkled on the floor. and hence our objective will be accomplished.



V. DIAGRAM

The trigger will be located near the user's hand. It is located at a convenient location for the user to press.

And the casing, which is around the middle of the rod, has a liquid entrance, will also display a liquid level indicator. The pipe will be threaded through the rod from the casing to the sprinkle, which will be located at the bottom end of the spinner. A motor will be installed on the end side to sprinkle the liquid with the desired pressure.

VI. RESULT

During mopping and scrubbing chores, the usage of wet wipes had the highest repetition count and exertion rates. The plunge mop produced higher peak scrubbing forces. The cotton fibre mop was deemed the cleanest by all participants. All three mops were at a moderate postural risk.

VII. CONCLUSION

When compared to manual washing, mechanized floor mop laundering standardizes the mop cleaning process and reduces the microbial load significantly. The use of sodium hypochlorite to disinfect floor mops before mechanized laundry had no effect on microbial load decrease.

When used with a detergent cleaner, the microfiber system outperformed cotton string mops in terms of germ eradication. The application of a disinfectant had no effect on the microfiber system's ability to eliminate bacteria. Ordinary cleaning of patient rooms in Norway is usually done with soap and water. Cleaner technologies have been detected in an increasing number of scientific publications, and this trend is expected to continue in the future.

This work is intended to be utilized by researchers as one of the inputs for steering their research directions based on the patterns shown, as well as a source of information for the general audience.

VIII. ACKNOWLEDGMENT

The author would like to thank department of Applied Science and Humanities, Pimpri Chinchwad college of engineering for provision of opportunity and guidance for this project.

REFERENCES

- [1] Sci hub
[https://doi.org/10.1016/00036870\(82\)902095](https://doi.org/10.1016/00036870(82)902095),
<https://doi.org/10.1016/j.jhin.2008.09.014>,
<https://doi.org/10.1016/j.jhin.2008.09.014>,
<https://doi.org/10.1016/j.ijheh.2020.113592>,
<https://doi.org/10.1053/jhin.1999.0616>,
<https://doi.org/10.1016/j.ajic.2015.01.029>
- [2] Science direct
[Prevalence of MSDs and Postural Risk Assessment in Floor Mopping Activity Through Subjective and Objective Measures](#)
[Floor cleaning: effect on bacteria and organic materials in hospital rooms](#)
<https://www.sciencedirect.com/science/article/pii/S1438463920305381>
<https://www.sciencedirect.com/science/article/pii/S0196655315000759>
<https://doi.org/10.1016/j.clet.2022.100445>
<https://doi.org/10.1016/j.jclepro.2022.130703>



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