

# Smart Dish Washer

Yuti Naresh Meher<sup>1</sup> Shweta Baban Patil<sup>2</sup> Prof. Vishwajeet Nikam<sup>3</sup>

<sup>3</sup>Head of Department

<sup>1,2,3</sup>Department of Electronic and Telecommunication Engineering

<sup>1,2,3</sup>St. John College of Engineering and Management, Palghar (E) 401402, India

**Abstract**— Though lot of human activities are automated in the present competitive world. There is a lag in automated dish washer. Some machines are already designed with the help of high velocity water only; hence there is a chance of uncleanliness and not removing tough strains in dishes. In order to overcome the above problems a special machine called —Automatic Dishwasher Machine” with rollers, brush and water jet introduced in this work. By combining dishwasher with roller mechanism using brush and water jet, it is possible to clean the objects effectively than the other machines and without any man power.

**Keywords:** Smart Dish Washer

## I. INTRODUCTION

### A. What means by dish washer?

A dishwasher is a machine for cleaning dishware. A mix of water and dishwasher detergent is pumped to one or more rotating spray arms, which is clean the dishes. Once the wash is finished, dishes are dried using one of several drying methods.



Fig. 1: Output (Clean dishes)

## II. PROBLEM STATEMENT

In India, many events and stores are organized where up to thousand dishes are used. To wash this dishes lots of mans will be needed and it is time consuming also. And more money will be required, Human have a lots of trouble to wash thousands of dish and it is take lots of hard works, A lot of laborers are needed to wash the dishes, and money also goes a lot.



Fig. 2: Problem Image

## III. SYSTEM DEVELOPMENT

### A. Block diagram of dish washer

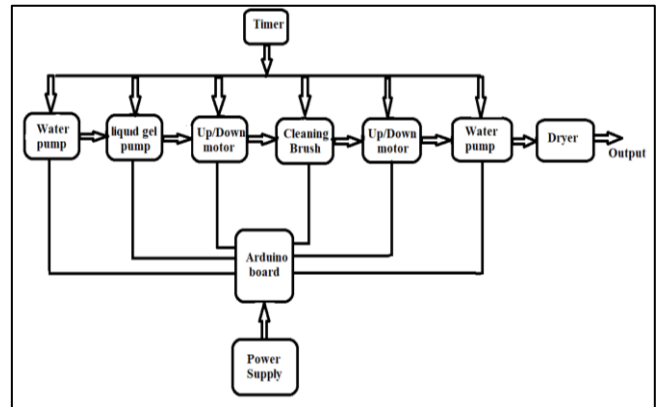


Fig. 3: Block Diagram of dish washer

### B. System circuit Diagram

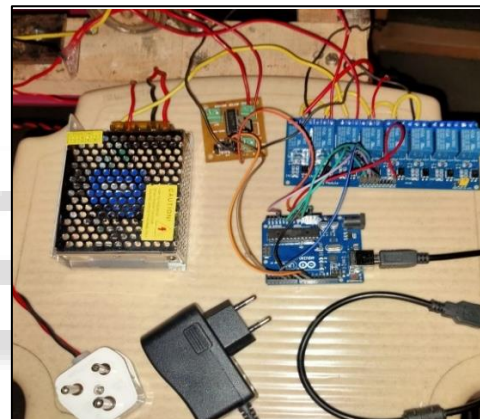


Fig. 4: circuit Diagram of dish washer

## IV. FLOW CHART

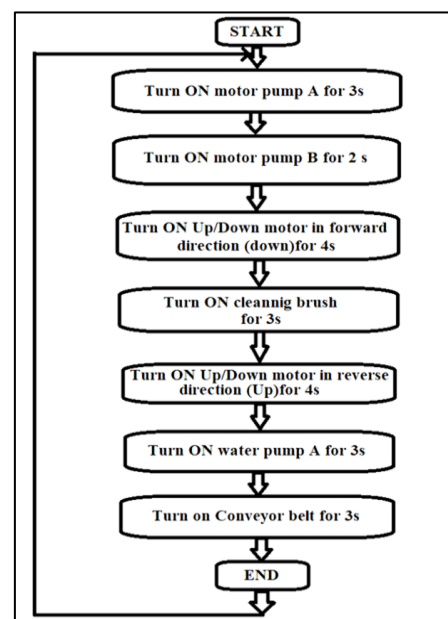


Fig. 5: Flow chart

#### V. WORKING PRINCIPLE OF DISH WASHER

- Basically, a dishwasher is a robot that cleans and rinses dirty dishes. Humans have to load the dishes, add detergent, set the proper washing cycles and turn it on, but the dishwasher accomplishes a whole series of functions by itself.
- Adds water
- Heats the water to the appropriate temperature
- Automatically opens the detergent dispenser at the right time
- Spray the water through pump to get the dishes clean
- Drains the dirty water
- Sprays more water on the dishes to rinse them
- Drains itself again



Fig. 6: Step of Operation

#### VII. CONCLUSIONS

This saves lot of time and man power. Our system is eco-friendly and no experts are required to operate the machine. Many people have purchased this gadget, and they have testified that the gadget has helped them a lot. Since people are becoming busier with time, this gadget has helped save some time for other activities. The machine is efficient and convenient. It meets the challenges of cleaning dishes and thus making life easier.

The dishwasher has also simplified work in places like hotels, restaurants. It has continued to solve the problems of dishwashing in the kitchen. This equipment has continued to grow in popularity.

#### VIII. ADVANTAGES OF DISH WASHER

- Better utilization of water
- Very useful in reducing human effort
- Lower labour costs
- Save the energy
- Saves time
- More number of dishes can be washed in very short time.
- The filler basket needs regular cleaning to avoid rotten door in the kitchen.
- A clogging in the drain pipe due to the left over foods or other materials will result in slow drain of the dishwasher.
- Another common failure of the dishwasher is caused due to the clogging in the holes of the dishwasher arms. The water is sprayed unevenly which results in poor washing.

- Air is applying on dish to dry dish.

#### VI. STEP OF OPERATION

First dirty dish will come inside the dish washer, after that a little water will fall on it. Then that dish will turn into dustbin using some mechanism, then that dirty food (waste food) will fall into dustbin and the food on the dish will be almost removed. That dish will turn back to its former state (upside down), then pour water on it than remaining food will be cleared. Then little bit gel (detergent) will apply on dish. Then movable arm with brushes will clean dish properly. After that the water will apply to dish with pressure to wash dish thoroughly. Now, the high air pressure is apply on dish to dry the dish. Hence, your dish is cleaned.

#### IX. DISADVANTAGES OF DISH WASHER

- Cloth should be replaced with another cloth after every 15 days.
- Only one size of dish can wash

#### X. APPLICATION OF DISH WASHER

- In religion place where store are conducted.
- In hotels/Restaurant.
- In marriage occasions.
- Domestic application.

#### REFERENCES

- [1] J. Garish-Cochrane, "Dish-washing machine", United States Patent Office, Patent No. 835,299, April 24 1917.
- [2] W. R. Walker, "Dish-washing machine", United States Patent Office, Patent No. 249,645, and November 22, 1921.
- [3] P.E. Frantz, "Dishwasher", United States Patent Office, Patent No. 2,686,526, August 17, 1954.
- [4] WESLEY C. COX, "An Automatically Controlled Dishwashing Machine "American journal of public Health and the nation's health, Volume 27, September 1937