

# Research Paper on “Innovation in Design of Washing Machine”

Satyam Agarwal<sup>1</sup> Jeemit Kansagra<sup>2</sup> Laxmi Narsimha Swamy<sup>3</sup> Dharmesh Jain<sup>4</sup>

Prof. Bhavesh Patel <sup>5</sup>

<sup>1,2,3,4</sup>B.E Student <sup>5</sup>Professor

<sup>1,2,3,4,5</sup>Department of Mechanical Engineering

**Abstract**— Cloth washing is one of the essential parts of the life but it is considered undesirable because of the involvement of efforts, time, energy and cost. Now a days a many types of washing machines are available in the market and due to which there is a tough competence among the manufacturers. Due to different features and capabilities cost of washing machine varies from Rs.10,000 to 1,50,000. The cost of washing machine increases due to facility like dry cleaning. All of the washing machines available in the market are electric power driven and basic working principle depends upon creation of the movement of detergent around the dirty clothes. Drying of the clothes is depends upon rotation of wet clothes at very high rpm so that water droplets can be separated out due to centrifugal action. In our country where approximately 70% population is living with very poor economic status, those people cannot have a washing machine because of cost constraints and unavailability of electricity due to any reason. The present work is an attempt to develop a concept to make a cloth washing mechanism which can meet out the requirements of above mentioned 70% population of the nation. Working principle of this concept is no more different from available similar type of machine with a difference driving mechanism of the machine. The objective of bringing down the initial cost and operating cost of washing machine is almost achieved in present work within the limitation of work as mentioned.

**Key words:** Washing machine, Paddle, Gear mechanism, Flywheel

## I. INTRODUCTION

A washing machine (laundry machine, clothes washer) is a machine designed to wash laundry, such as clothing, towels and sheets. The term is mostly applied only to machines that use water as the primary cleaning solution, as opposed to dry cleaning (which uses alternative cleaning fluids, and is performed by specialist businesses) or even ultrasonic cleaners.[2] The definition of washing is "To cleanse, using water or other liquid, usually with soap, detergent, or bleach by, immersing, dipping, rubbing, or scrubbing". The term machine "A device consisting of fixed and moving parts that modifies mechanical energy and transmits it in a more useful form."

## II. OBJECTIVE

Our main objective is to totally remove the electricity from washing machine so in rural area washing machine could be used. In the village area main problem is of electricity so we are concentrating on no use of electricity And as in village our foot operated washing machine can be used to sought out the electricity problem. By use of the foot operated washing machine the man power is reduced as hand washing is very tedious process.

## III. LITERATURE REVIEW

The research relates to the field of machinery, and more particularly relates to a foot-saving washing machine.

There are electricity washing machine, washing machine on the market can be divided according to size with conventional mini categories. Existing mini-washing machine for cost reasons, can not be process performance large washing machine, which compromised the safety and practicality. The present inventors have years of research and development, innovative use of the pedal mechanism to rotate the mini (small) washing machine, in order to achieve a new innovative invention is not electricity a foot energy-saving washing machines. The washing machine adopts foot drive, gently step on, high-speed rotation, can be easily washed. Dehydration and other washing machine regular features. Foot-saving washing machines without power, it is a true eco-friendly products, in line with the current low-carbon life philosophy, which was a supplement to conventional household washing machines. Chassis with strength plastic, foot gear dual use aircraft-grade nylon 6, reasonable structure design, manufacture precision, small size, high capacity, light weight, simple operation, stable performance, low noise, long life, safe and reliable, dehydration rate and so on. Easy to use, easy maintenance, safe and reliable performance.

The problem to be solved is to provide a high transmission efficiency, the use of labor-saving foot-saving washing machines to overcome the prior art bulk defects. And the need to use the electric drive transmission mode.

To achieve the above object, the present utility model provides a foot-saving washing machines, mainly by the washing machine lid, dehydration basket, the outer tube and washing machine base composition; said transmission means provided in the washing machine inside the base; the bottom of the spin basket fixed link, the lower link fixed bevel gear, bevel gear and meshed vertical, vertical gear and the drive gear coaxially fixed, and the rack drive gear engages a rack provided on the inner rail, rack rails along a straight line sliding, hinged rack pedals, pedals hinged in two risers.

Further, between the pedals and the base set torsion spring, one end of the torsion spring force on the base, the other end of the force on the pedals.

Further, the link with the fixed disk drive, dish washing, dewatering basket are connected in sequence, and by the tightening cap fixed connection.

Further, the inlet disposed in the washing machine lid; the outlet is provided on the outer cylinder, and the outlet there is provided on the sealing buckle.

Compared with the prior art, the novel technical solution has the following advantages:

The utility model is a foot-saving washing machine transmission efficiency, the use of labor-saving, small size, low power consumption without the need for easy placement.



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