

Portable Cloth Dryer Machine

Prof. R.M.Dahekar, Ajay Hajare, Akash Dhole, Pratik Thakare, Sahil Narekar

Department of Mechanical Engineering,
GWCET,
Nagpur, Maharashtra, India

Abstract- As technology continues to progress human civilization has begun to enter into new world in many parts of India like cherranpunji, Shimla and other humid regions in foreign countries, it is observed that clothes are being wet for many days after the wash, so as the people suffer. So, the invention of quick portable cloth drying machine helps in solving out these problems. The quick portable cloth drying machine helps in drying out the clothes in all seasons.

Keywords- Shaft Rotation, Electric Powered, Clothes Handling, House Hold Application.

I. INTRODUCTION

Technology continues to progress human civilization has begun to enter into new world in many parts of India. Decreasing in energy losses and heat recovery is one among the important research topic. Humid regions in foreign countries, it is observed that clothes are being wet for many days after the wash, so as the people suffer.

Natural drying of clothes in housing areas is prohibited for aesthetic reasons. The modern conventional electric cloth dryer is expensive and inefficient. Today, laundries have their own drying cabinet to prevent the risk for clothes that might get dirty. The idea is to make the difference in modern spinning concept in cloth drying machine.

II. METHODOLOGY

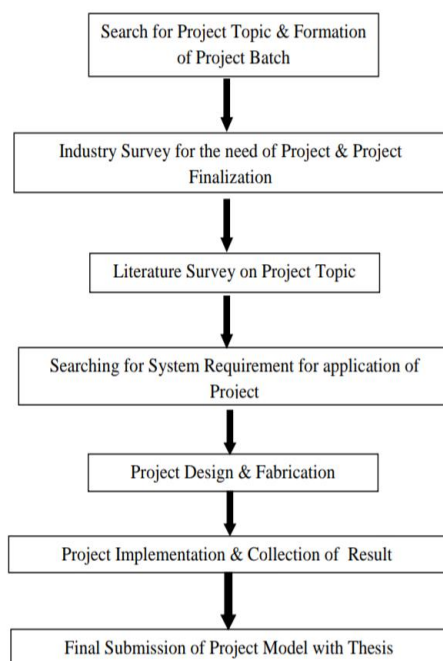


Fig 1. Methodology.

III. MODELING AND ANALYSIS

DESIGN AND FABRICATION OF CLOTH DRIER

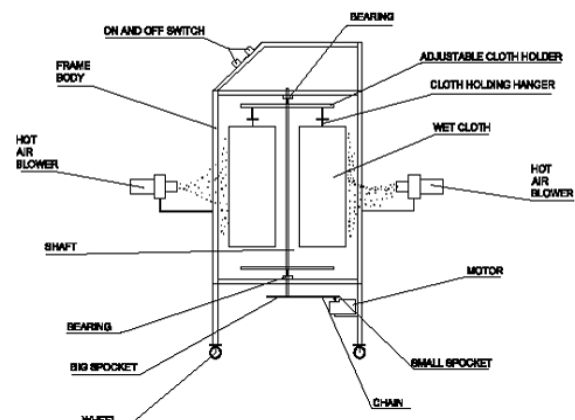


Fig 2. Design and fabrication of cloth drier.

Parts of Main Assembly

1. Shaft, 2. Industrial Blower, 3. Sprocket, 4. Bearings, 5. DC Motor, 6. Drying Cabinet for clothes, 7. Hanger.

IV. RESULTS AND DISCUSSION

Using the instrumented facilities. Baseline dryer performance data were collected for the following parametric variables weight and percent of water content of clothes, Blower flow rate, shaft rpm & blower temperature. The drying tested were conduct with one independent variable varied and one dependent variable measured. While the remaining parametric variables were held constant.

The air temperature controller normally utilized on a commercial unit was bypassed with blower temperature held constant. For example, without temperature controller, adding more cloth to the dryer (Constant

blower and shaft rpm, blower temperature and percent of water content of clothes.) Would result in a higher flow rate, and blower temperature since the air flow would be restricted and convective heat transfer from the coil would be decreased. The result of the baseline performance tests is discussed in conclusion.

V. CONCLUSION

The final configuration has been demonstrated to achieve the significant energy savings and fabric care along with significant reductions in total dry cycle times. This dramatic improvement in performance is achieved, by maximizing the output capacity, the blower was able to deliver 30-50% energy savings and dramatically lower cloth temperatures in total dry times for varying types of clothing loads that were similar or faster times than the market-best standard electric dryers.

The cloth dryer found to be:

- Simple in design and easy to fabricate
- Easy to handle the equipment.
- Economical.
- No need of skilled labor.
- Equipment is portable.

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