

DEVELOPMENT OF MODIFIED SYSTEM FOR ROUND RING CLOTH PEG ASSEMBLY

ANURAG K. NAGPURE¹, ANIL V. VANALKAR²

¹Research scholar, Department of Mechanical Engineering, K.D.K College of Engineering, Nagpur, Maharashtra, India

²Professor, Department of Mechanical Engineering, K.D.K College of Engineering, Nagpur, Maharashtra, India

Abstract - Clothes pegs are mostly used for hanging a wet cloths for drying. In cloth pegs it consists there are two parts of plastic peg and assemble with round ring. There are separately manufacture of pegs and round ring. This is very tedious and troublesome process, So that research of machine, design and after that fabricated of mechanism for reduced the human effort and increased the production rate.

Keywords:-Plastic peg, CAM, Shaft, Nut & Bolts, Number of Links, Gajan pin, DC Motor, Bending Diagrams, mechanism, and Etc.

1.INTRODUCTION

Cloth peg are mostly used for hanging a wet clothes for drying in line at overall world. It consist of two plastic peg and one metal round ring or also assembly in U-shaped pin ring is assembled together. They made from plastics, wood, steel etc. Cloth pegs often comes in many different designs and different colours. It is done by workers and machines.



Fig-1: Round ring cloth pegs

Need of the project

For the inserting a two parts of the clothe peg is very easy. When to developing machine for inserting a ring into cloth peg for reduced an effort for making a job easily and more banalities and to safety of worker.

Research Methodology

Research methodology to be employed after visiting a plastic peg industry. I see assemble a parts of cloth peg is

automated or semi-automated machine and the cost of the machine is very costly and in last year one engineering student can developed a design a mechanism but this a hand operated mechanism. The used of human effort is more and production rate is less. So my aim is to develop a small machine to reduce their manual efforts make their easy job. So Research and developing a mechanism. I Appropriate mechanism inserting a round ring into the cloth peg.

CAD MODEL OF DIFFERENT PARTS OF THE ASSEMBLY MACHINE

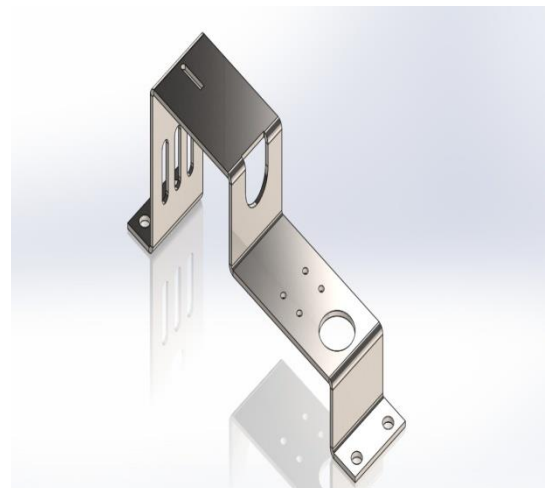


Fig-2: Bending diagram of workstation- II

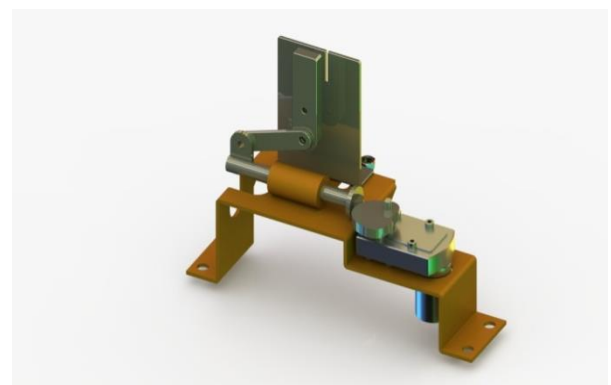


Fig-4: CAD Model of Workstation-I

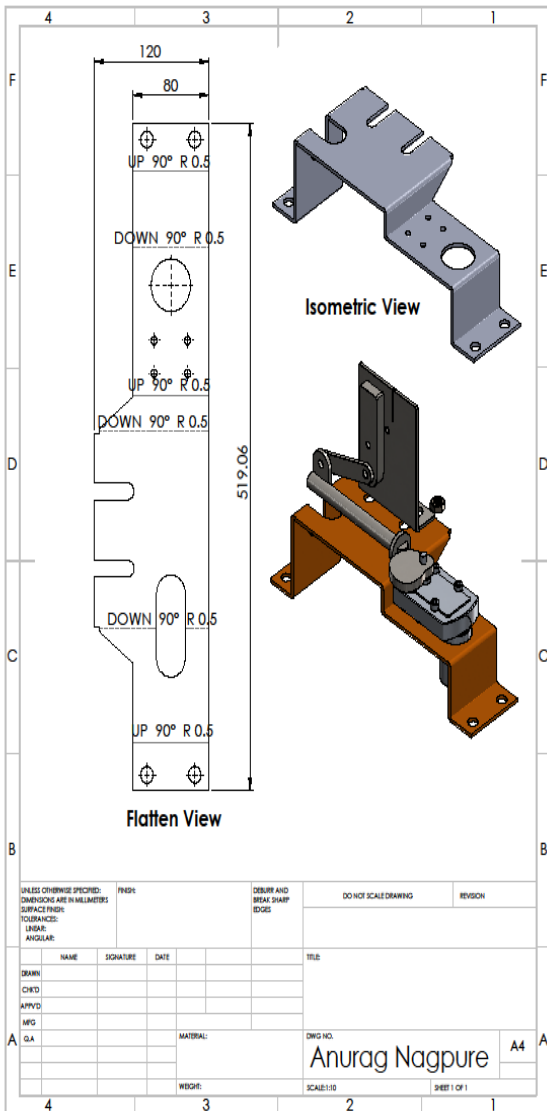


Fig-3: Bending diagram of workstation- I

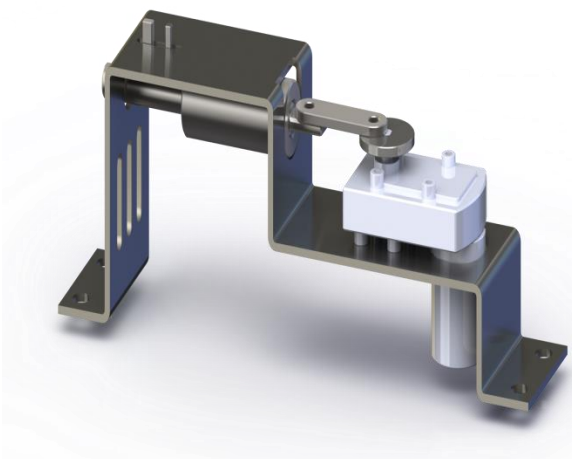


Fig-5: CAD Model of Workstation-II

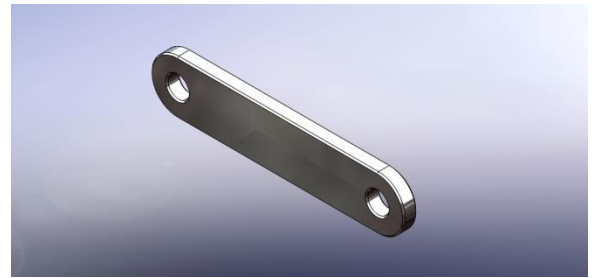


Fig-6: Link I for workstation -I

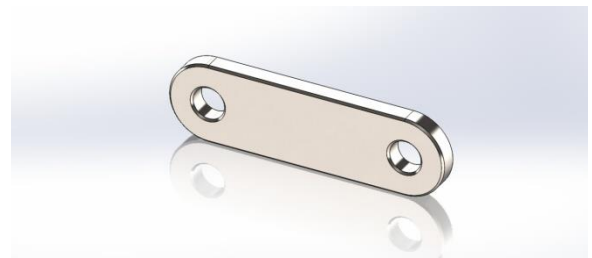


Fig-7: Link II for workstation -I



Fig-8: Cam of workstation -II



Fig-9: Cam of Workstation -I

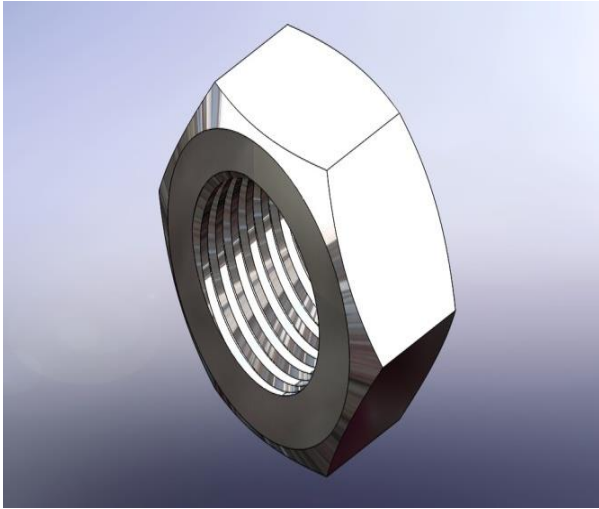


Fig-10: Bolt

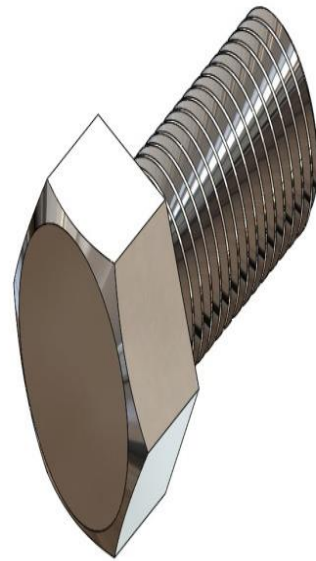


Fig-13: Hexagonal Nu

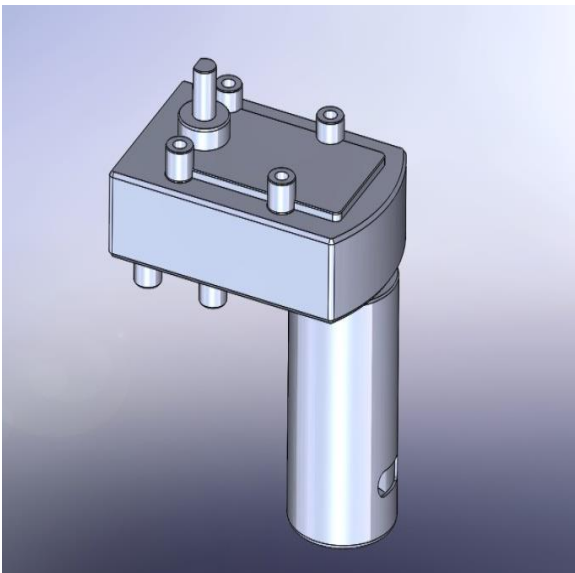


Fig-11: Square DC Motor



Fig-14: Shaft of Workstation-II



Fig-12: Gajan Pin



Fig-15: Shaft of Workstation- II

Machine working process:

The machine consists of a two work station in work stations with arrangement of the motor (geared motor).

In workstation station-I for inserting a metal round ring into the rectangular grooves the metal ring is placed stable in the groove of the metal flat plate and another side the arm is used. For twisting the ring at a certain distance (20-25mm) and after the two parts of peg are inserted by hand and inserted into rectangular groove of cloth peg. In workstation-II the two vertical bar are arrange and working in linear motion and the ring are fit in bar and after the linear motion the ring mount distance is increases (20-25mm) and lightly pull the peg on down side aftering is fitted exactly in the two part's of peg and after remove the assemble cloth peg and process is done.

Conclusion

Cloth peg consists of two plastic parts and a metal ring. The plastic parts and the metal ring are manufactured separately and then assembled together. Assembling of the plastic parts and the ring is a tedious and troublesome process. So, the "Developed of modified system for Round Ring Cloth Peg Assembly Machine" is designed which will reduce the human efforts and increasing a production rate.

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