

Design and Fabrication of Saree Rolling Machine

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Abstract: Saree, by name it is a dress of women of India. It is the dress for casual, formal, party, leisure, eventual and romanticism. It is the dress from corner of the village to the flush lighted metropolitan. It is a piece of cloth with marvelous surface decoration, usually 4.5-5.5 meters long that is draped in a set pattern. But for many shop owners the worst part is to fold all the saree. This activity is not only tedious and time-consuming, but also requires some efforts to fold all the saree in the same size. At the present, there is no such machine for this purpose has been devised. Certain aids to hand folding have been proposed to reduce manual labor involved and also the skill and time required to some extent. Therefore, we are proposing a new technique for future. Instead of folding we will roll saree on the rollers. These rollers will also be used for showing sarees in shops. There are many advantages to the new system.

Keywords: saree rolling machine

1. Introduction

Today modern life is busy and constrained on each of manufacturing & service industries, eventually leads to an increase in overheads i.e. which is proportional to man hours used in process industry. For many saree shops, the worst is to fold all the saree once they come out of the packet This activity is not only tedious and time consuming, but also requires some efforts to fold all the saree in the same size. This often leaves a mess in the shops and gives trouble for salesman when they are folding the saree.

In order to cope with the problems stated above, we are proposing a new idea. Instead of folding a saree we propose that in future the saree will come in roll forms instead of packing in bags. A low cost rolling machine that could automatically roll the saree, when the saree is placed on the machine. This machine will be easy to use and requires little human involvement, which is significantly useful for people who do not have time or not willing to organize their saree. The machine is able to detect the saree automatically and roll them in a neat way. For safety reasons, the folding procedure will only initiate after users leave their hands from the machine.

2. Problem statement

When one lady visits to purchase a saree she will be going to check a minimum of 10-20 saree and end up selecting 1-2 saree depending upon his requirements. The shopkeeper gets tired

folding saree and sometimes they feel stress. One saree takes more than 1-2 min in folding and packing. Our main purpose is reduce this human effort and to solve this folding problem within 1-2 minutes. As a manufacturer (medium, scale) and small scale organization and departmental stores as well appropriately established laundries, saree shops, cloth manufacturing industry etc. need to save time & money & that will be directly effect on economic development & increase in GDP (GROSS DOMESTIC PRODUCTION) of India, in terms we save man-hours and reduce the cost. So looking towards all the social issue to enhance our economic growth we need to solve most of the economical problem.

3. Literature review

Chin-Yung Lin Synchronous Cloth Rolling Apparatus of a Knitting Machine Jul. 23, 1996 in his paper he proposed that cloth rolling apparatus of knitting machine consists of two types of mechanisms. one is cloth rolling mechanism and another is cloth pulling mechanism. These two mechanisms are fixed on the supports. These mechanisms also consist of a cloth rolling shaft and cloth pulling shaft attached to the base.

From the research paper of Donovan M. Janssen; John P. Mantey, Donald C. Roller Dual Motor Aligner Mar. 27, 1984 we learnt that for effectively feeding sheets from supply station he aligned the sheets in X, Y and 6 coordinates. He also uses sensors for checking the exact position of the feeded sheets in the respective coordinates.

For preventing the slacking of cloth roll Robert W. Benson; Robert G. Reed, Cloth Feed Control for Spreading Machine Aug. 15, 1972 in his paper suggested a provision of dancer rollers. Provision of overrunning clutches for making clothes roll fast in response to the feed demands.

For the heating of the clothes Hidekazu Komiya, Nagoyashi (JP), Nov. 2, 2017 Cloth Support Base in his paper used a treating agent, sponge and flat heating plates on the clothes for heating the clothes. The heating plate of the heat press machine comes into contact with the cloth from an opposite side to the sponge. As a result, water vapor is generated by moisture contained in the treating agent being heated, and the generated water vapor moves through the sponge. Theodore d. Palmer, Cloth-Pressing Machine, Oct. 31, 1911 in his research paper suggested that in a clothes pressing machine, two co acting

relatively movable pressing elements, one of which is hollow and provided with perforations, and means for conducting steam into the perforated element and confining it to only a limited number of the perforations at one time.

4. Proposed solution

Our process will be done in following ways, Heating, Feeding & Folding. In the first stage of heating, we have to preheat the saree so as to maintain uniformity along the process. For the purpose we are using a heater. After this the saree is fed into the combination of rollers. There is a set of rollers for guiding the saree to the roller. This roller is detachable and can be used for showing saree in the shops.

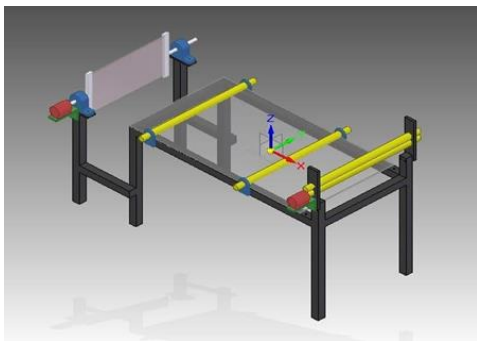


Fig. 1. Saree rolling machine

5. Conclusion

We are manufacturing efficient, fast and economically feasible saree rolling machine which will handle, make appropriate roll of saree. We are designing machine which will roll saree without damaging its fundamental make up like color, weave etc. Also making the arrangement of heating in the same machine to keep saree always new. The process will optimize power utilization & maximum efficiency in terms of process achievement. It will help to reduce the efforts of workers. To utilize the time required to fold a saree in some other useful work. & to enhance the simplicity and ease of work.

References

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