Bamboo as the Sole and Soul of Hangers

Pravinsinh Solanki

Abstract India is a country of diverse cultures and skills. The people of North-East India are skilled in the bamboo craft which is deeply rooted in their culture and traditions. Despite the rich craft tradition prevalent in the region, the bamboo sector is unorganized. It lacks design thinking, therefore, the impact on the Indian and global markets is less. Many lifestyle products are "single-use" products and made from plastic which is a threat to the world. Cloth hangers are the second largest contributors of waste material. Sustainable alternative to plastic is the global need to take steps against environmental exploitation. Cloth hangers are lifestyle accessories that seem small, but in reality, it significantly generate plastic waste. This paper enquires into hanger designs which are functional, aesthetically sound, easy to produce, and durable. These hangers are fashioned out of bamboo and are very easy to produce in a cooperative manner. This impacts the world in terms of environmental betterment, export increment, and the North-East region, in terms of global exposure for the artisans by enhancing their standard of living. The bamboo hangers are "designed in India" but are "made for the world".

Keywords Bamboo · Hanger · Sustainable material · Craft · North-East · Innovation · Design · Fashion lifestyle product

1 Introduction

India is the second largest producer of bamboo and has nearly 200 species of solid and hollow bamboo [1]. It is difficult to utilize both of these types of bamboo. The bamboo found in North-East India is hollow.

Bamboo has the ability to grow fast and can survive in various climatic and edaphic conditions. It can grow under any extreme soil conditions, varying from organically poor to mineral rich soil. It can be regenerated without replanting if harvested and managed properly.

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Bamboo also plays an important role in carbon sequestration and biodiversity conservation. Bamboo's diversity in terms of its size, being light but sturdy, hard and straight, fast growing, and found in abundance makes bamboo amenable to the versatility of use which is often species specific. It is an important non-wood forest product which is used in furniture, construction, shoots as food, pulp, and paper industry, handicrafts, and even in channeling water as a substitute for pipes.

Due to all these uses, it is considered a common man's timber. It is also capable of providing ecological, economic, and livelihood security to the people. It is durable, available in abundance and sustainable compared to other materials used in making furniture. A bamboo clump can be harvested after 4–5 years of cultivation whereas wood takes many more years. Generally, bamboo parts such as the branches and the knots of the bamboo are discarded and just used for burning when cooking. However, these parts too can be identified as a potential component for making a product.

2 Bamboo in India

In North-East India, bamboo plays a huge role in people's lives. From building houses and irrigation channels to making handicrafts and even as food, bamboos are used. The tender bamboo shoots are cooked as delicacies and eaten; they cook the food in hollow raw bamboos and use the dry bamboo as fire. Skilled artisans make bottles, tiffin boxes, and various other essential products with bamboo. These products made with bamboo are of high quality.

India is moving towards increasing exports of bamboo products and is being supported by the National Bamboo Mission to help local artisans.

Using Bamboo to make products that are part of our day-to-day life has a social impact. It allows for intercultural interaction when people work together. Economy-wise, increased domestic usage of bamboo can directly increase the exports which will help grow the economy in the country and globally as well. Simultaneously, it will also help the local people for their livelihood. Encouraging designers to work with bamboo can widen the scope to create new innovations in this field.

India has no shortage of skilled craftsmen and has ample resources in the field of working with bamboo. It can be massively utilized to serve the global demand of sustainable products.

3 Hangers

3.1 Design Opportunity

The designer designed the hangers keeping in mind that they are used by everyone globally. They are made out of bamboo and have been experimented with several designs and each hanger serves a particular purpose. He fashioned out multiple designs for the hangers, many of which he believes are the most efficient in using bamboo which requires minimal labor and tools. The hangers are designed to be durable, cost-effective, portable, easy to assemble, and functional. The designs are such that a novice too can work with bamboo and can make the hangers and need no special set of skills or tools.

In India, there is a growing number of retail outlets. Regardless of whether it is a regular or premium clothing store, clothes are displayed on hangers. They are usually made out of plastic, metal wire or wood. The designer's perspective is that bamboo is the perfect substitute to other materials for designing and manufacturing hangers which are durable, aesthetically pleasant, and suitable for mass production. It is also beneficial to the country and the artisans who are involved in the production. Few of the hangers are designed in a way that no one will be able to steal them, such as the "Pacman" (Fig. 11), which can be used in boutiques, hotels, etc.

3.2 Design Intervention

People in India use bamboo to make furniture and objects like caps and baskets. Products like caps require the skill of deriving slivers from the bamboo and weaving it in a particular manner. The existing products made from bamboo are very heavy, thick to hold, lack aesthetic sense, look bulky and are difficult to transport as they result in large packages. The designer pondered that if the raw materials are ample and the local people are skilled, then why there is a lack of remarkable development in the field of bamboo products? The designer realized that the existing artisans and weavers did not have a standard yardstick, for instance, if any artisan makes a cap out of bamboo, it would be different in size than the other so it might not fit an individual in the same manner. The products lacked uniformity and mass production techniques.

The element missing in this field is a design intervention, an idea of making a unique product using the same material but with a functional design, aesthetic value, and an easy production process. When it comes to a designer, commonplace materials also form a unique, functional, and aesthetically sound product that no one could have expected.

3.3 Bamboo as Sole and Soul of Hangers

The designer had an innovative approach to contemporize bamboo products. It follows a component model. The design of each hanger can be broken down into few numbers of simple components that are easy to make and assemble.

The typically discarded parts of the bamboo such as the knots and branches are used, making them highly purposeful. They provide strength and dimensions required for the hangers. It is also cost-effective as they are cheaper than the internodes and the main bamboo.

Based on the type of species available in the region, any of the hanger designs can be adapted for production. The components for these hangers can be made by anyone with a little training and requires no special tools or facility to produce.

3.4 What Goes in Making

The material that is used for the hanger takes every part of a bamboo clump. The goal was to create a process that required no specific type of bamboo species. It was also ideated such that it could be made from any location with basic tools and skills. The material used for the hangers are the bamboo branches and the bamboo knots which are generally discarded to be used as firewood for cooking. This is to optimize the use of material in the design.

The tools required for making the hangers are very common. They are made from easily available hand tools and require no heavy machinery. Even during the absence of electricity, one can still make the product using the "Daau" or hacksaw. The "Daau", a long knife used in probably every North Eastern household is used commonly as a handy piece to cut bamboo. However, in order to increase efficiency, reduce manual labor and allow for mass production, power tools like a radial miter saw or band saw can be used. The other tool needed is a drill. The hand drill, power drill or pillar drill can be used for drilling holes in the junction that attach the shoulder stems. Here it requires no special skill.

The cutting and drilling process is made uniform across all the pieces by using a jig. It helps in achieving the dimension and maintaining the required angle for drilling the holes. These jigs assure the self-quality checks by the workers and good quality of the product. Once the bamboo components are cut and drilled, they are treated to preserve them.

As a finishing touch, the hangers are polished with a belt sander or by hands using sandpaper. The last piece attached to the hanger is the hook. The hooks are made out of a durable material such as galvanized wire (GI) or brass. These wires are easily available everywhere. The wire can be bent in a particular shape using another jig to make the hook. After the shoulder stem and the knot are assembled, only the hook has to be attached to the knot. The hanger assembly is complete. The whole process of making these hangers has been simplified into components which can be

made individually by even unskilled labor from the comfort of their own homes. These components can be assembled at a designated place and transported for retail as a finished product. Alternatively, it can be transported as components itself and assembled after. Branding can incorporated on the piece with branding iron or laser engraving. Holistically, a sustainable packaging would not only keep the product safe but also echo the values of the product.

4 Conclusion

People in India believe that bamboo furniture or accessories cannot be as durable as wood. The objective was to take an unexplored field of bamboo and take it to the mainstream industries. Every part of bamboo is put into use in making these products making it truly sustainable. Be it hollow or solid bamboo of any diameter, the designs can be achieved. Breaking down the product into simple components ensures efficient mass production and better quality control. Making these components needs little to no training for the locals. It does not require any special facility for the production of these hangers. It gives an opportunity for the locals to live at their own place, work as per their comfort and earn as per their capacity. Every member of the family can contribute to it. The marketing of the finished product can then be undertaken by the government or private sector. Apart from domestic usage, Tourism and fashion being a large market globally, these hangers can be targeted towards these sectors. From a broader perspective, the designer aims to rethink the existing hangers in the market. To envision it as a product that is not only sustainable but also has a contemporary spin to it, in terms of both the design and how the bamboo is used. The components of the hangers can be easily flat packed or made into DIY kits.

Globally and nationally, there have been some efforts made towards using bamboo effectively for making bamboo products. Few examples of products that use mass manufacturing processes are bamboo chairs, shelves, etc. For the Kaltlamara project [2], Bamboo bikes were made in Africa which used certain mass production processes and these bikes were made from bamboo species locally available in Africa [3].

For the designer, it was a challenge to work with limited resources in a demanding manner and to make the designs not only functional but also producible through an efficient system. The designer has done vast research and has worked extensively on bamboo products like toy cars, furniture, and accessories. This gave him the direction for efficient mass production by arriving at the component model. The component model empowers every stakeholder at each stage of the process from ideation to manufacturing to marketing and finally reaching the end users. The designer has truly imagined bamboo as the sole and soul of the hangers.

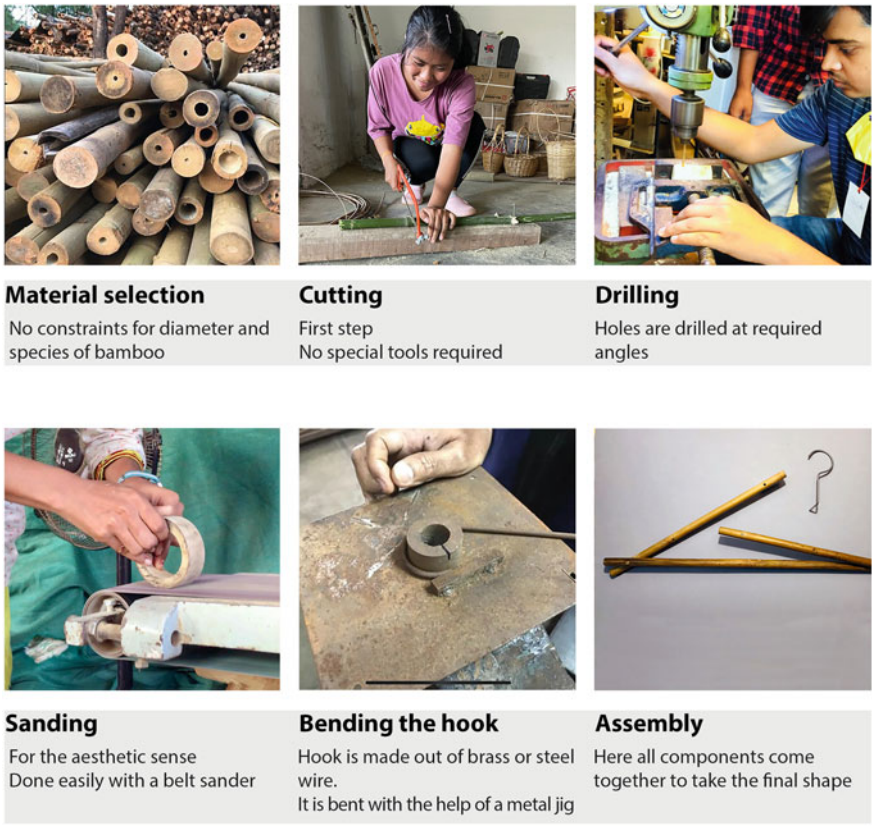

Fig. 1 Production process

5 Illustrations

See Figs. 1 and 2.

6 Outcomes

See Figs. 3, 4, 5, 6, 7, 8, 9, 10 and 11.

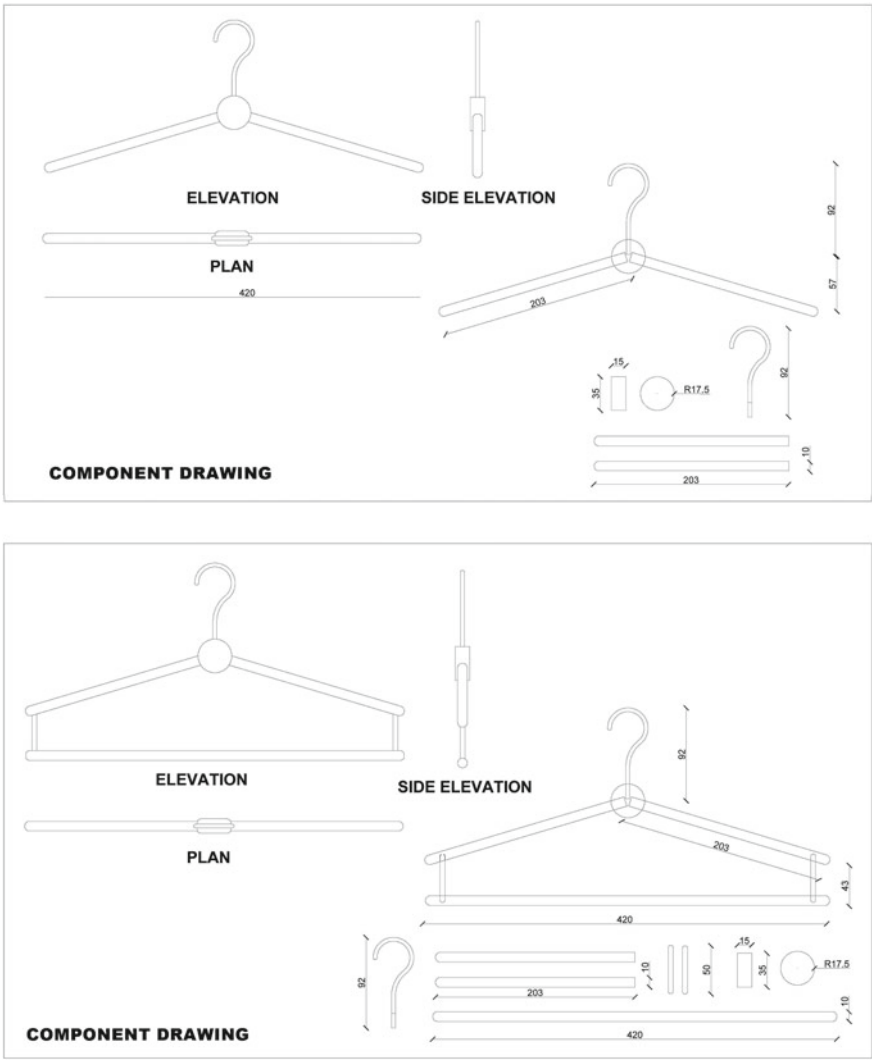

Fig. 2 **a.** Component drawing for antene. **b.** Elevation sketch for Cassa

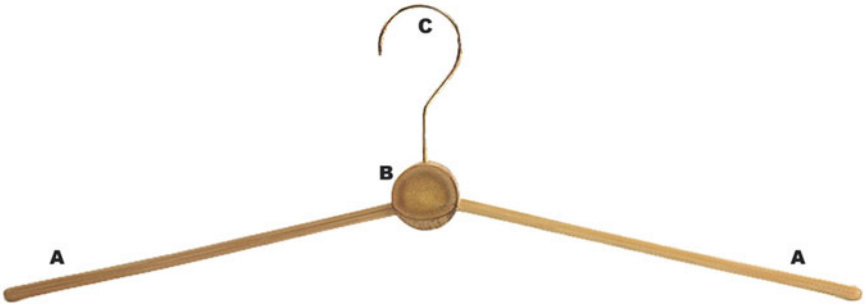

Fig. 3 **Antene**: Solid bamboo knot is used as the junction in this design. The two shoulder stem and the hook is attached to the junction. This is specifically made for shirts and t-shirts

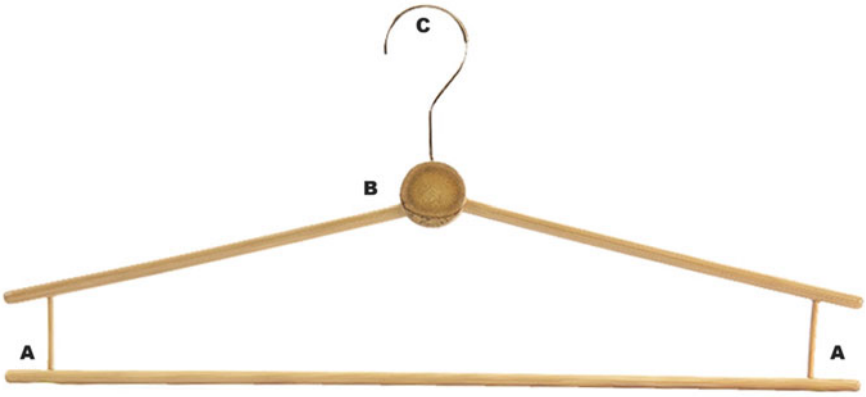

Fig. 4 **Cassa**: Additional support has been given to hang pants, shawl or sarees

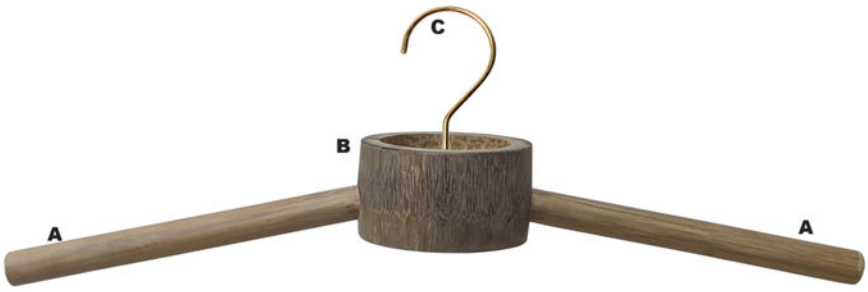

Fig. 5 **Collo**: The hollow bamboo knot has been used as a junction. It is positioned sideways to support the shoulder stems on either sides. This is specifically made for shirts, t-shirts and heavy garments

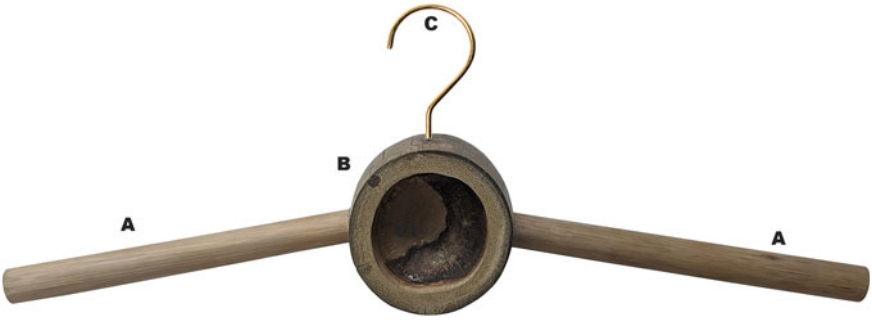

Fig. 6 **Moto**: In this variation the knot of the hollow bamboo is placed upright as the junction. This is specifically made for shirts and t-shirts and heavy garments

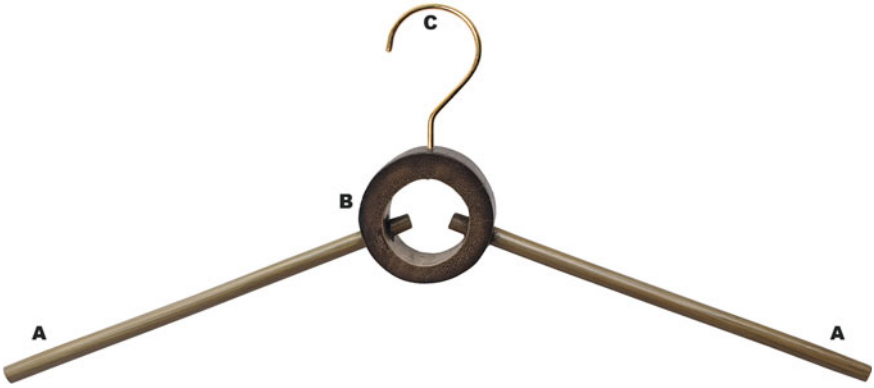

Fig. 7 **Time**: The thickness of the shoulder stems and the section wall are thinner in this variation. The cut section of bamboo is used as a junction. The shoulder stems are partially pierced through this section. This is specifically made for shirts and t-shirts

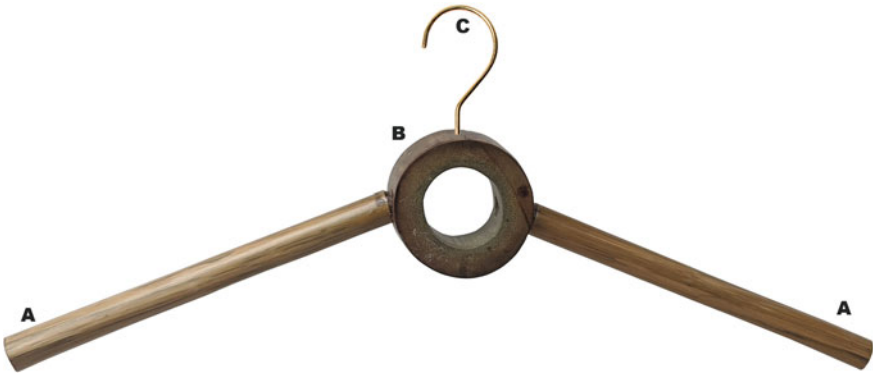

Fig. 8 **Cavo**: Thicker shoulder stems and section walls are used in this variation. The section is used as the junction. It is designed to hold heavier garments

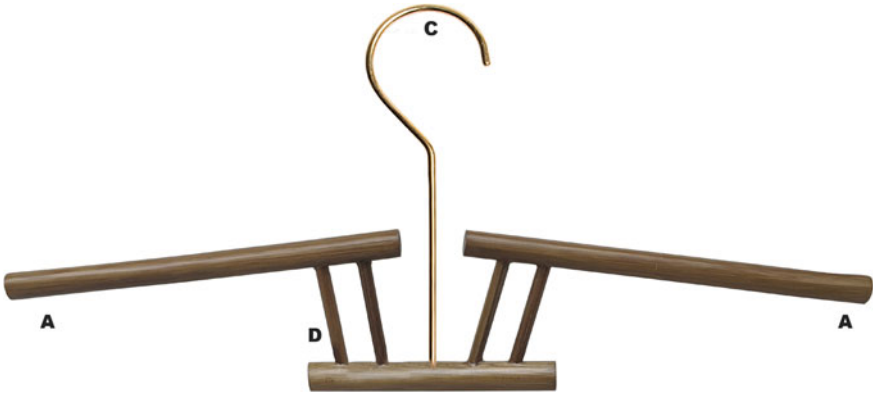

Fig. 9 Spalla: Bamboo sticks are used as shoulder stems and for the junction. They are both connected by the bamboo pins. This is specifically made for shirts and t-shirts

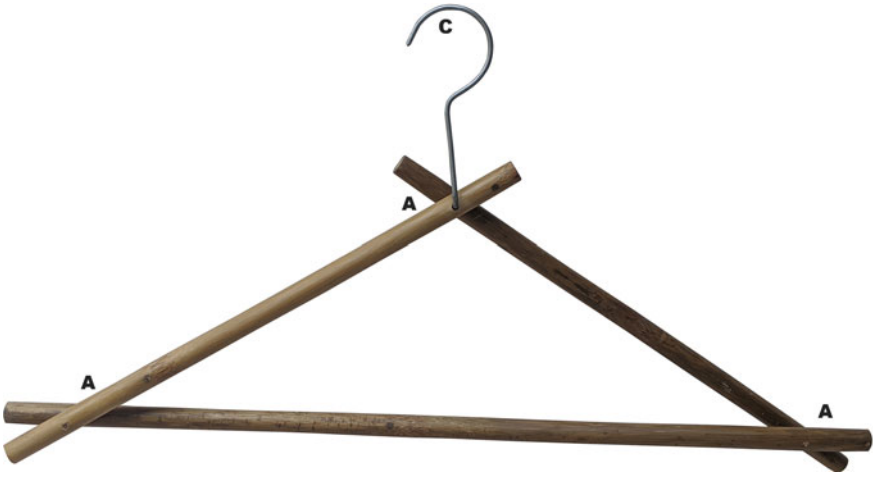

Fig. 10 Ghost: In this variation, the hanger is made collapsible. The hanger consists of three bamboo members and a hook. The corner junctions are riveted. The central junction is held together by the hook itself. It can accommodate all types of garments

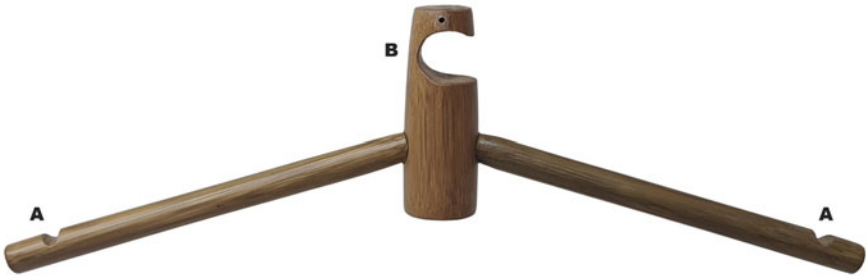

Fig. 11 Pacman: This variation is designed to be anti-theft. The central junction is made of solid bamboo which holds the shoulder stem on either side. The top of the junction has a unique profile cut. The hangers have to slide into the rod during the time of installation and cannot be removed by anyone. This is specifically designed for hotels. It can hold coats, shirts and t-shirts

References

1. Seethalakshmi KK, Kumar M (1998) Bamboos of India-a compendium. BIC India, Kerala Forest Research Institute, Peechi and International Network for Bamboo and Rattan, New Delhi, India, 342
2. Ranjan MP, Iyer N, Pandya G (1986, 2004) Bamboo and cane crafts of northeast India
3. Teo Kermeliotis (2012) Made in Africa: Bamboo bikes put Zambian business on the right track. CNN
4. Muli bamboo (plant)—Encyclopædia Britannica (2014) Britannica.com
5. Katlamara Chalo. A design for development strategy design as a driver for the Indian Rural Economy Concept, Design and Development M P Ranjan, p 200
6. Practice based research: a guide. Linda Candy, CCS report, 2006-V1.0