

## PART III

# INNOVATIONS

## for JHARKHAND

This section contains details of national innovations, which are deemed suitable for introduction in Jharkhand





**Arvindbhai Patel**  
Gujarat

## Auto Air Kick Pump

This innovation is a low cost, portable, compact aid to inflate tyre tubes/punctures of any vehicle having kick start or auto start mechanism so as to fix the problem on the spot and enable the rider to reach the nearby gas station or repair shop.

This device uses the existing air inside the compressor, so that, while kick starting, this air is utilized and transferred to the tube. A pinch of polymer granules is also inserted to seal the leakage in the tube.



## Unicool- the Natural Water Cooler

Refrigerators that operate on the principle of heat transfer and earthen pots that work on the principle of evaporation, are the options available for getting cool water today. Arvindbhai has combined both. In his natural water cooler, water is passed through cloth covered copper coils, which are continuously being moistened by a dripper. Evaporation of water from lining on the coil cools the water inside. Cool water without electricity, isn't it a nice idea!





**Ghonakanta Gogoi**  
Assam

## Multi Purpose Wood-working Machine

Small carpentry workshops have difficulty in purchasing and using multiple machines due to high initial costs, space constraints and maintenance considerations.

This multipurpose machine with minimal footprint, is built to address all major workshop needs, allowing completing the sequence of woodworking operations in one place, and allowing better control on finished product.





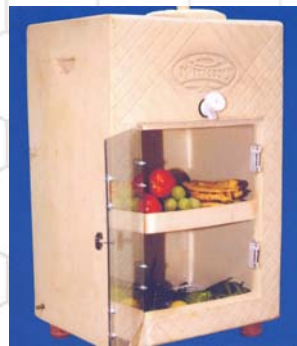
## Earthen kitchen products

### Tawa/pan

Non-stick tawas have become an essential part of our kitchens to prepare low oil food but are costly. Their non-stick coating also does not last long. Blending traditional and modern technology, Mansukhbhai has developed a clay tawa with a black non-stick food grade coating. Being non-metallic, the rotis, dosas and other items cooked on it give a different taste and feel altogether.

### Mitticool

A fridge for the common man that does not require electricity and keeps food fresh too. With this basic premise in mind Mansukhbhai came up with Mitticool, a fridge made of clay. It works on the principle of evaporation. Water from the upper chambers drips down the side, taking heat from the inside gets evaporated, leaving the chambers cool. Cool and affordable, this is the option to keep food, vegetables and even milk fresh naturally for days.



**Mansukhbhai Prajapati**  
Gujarat



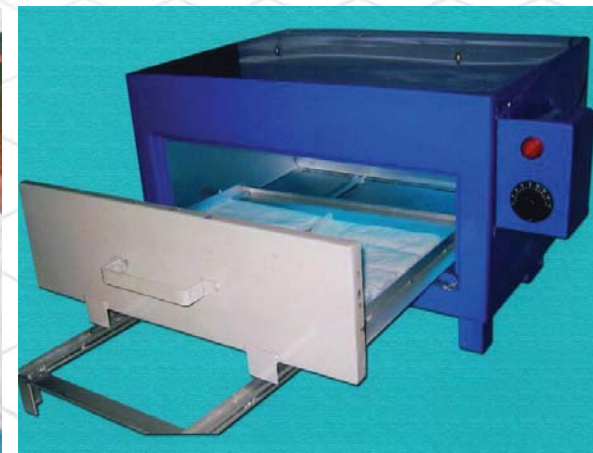
**A. Muruganandam**  
Tamil Nadu

## Sanitary Napkin Making Machine

Sanitary napkins, a universal product, have a very low penetration in India due to high selling cost and the traditional trend of using cheaper but unhygienic clothes. The innovator has developed a machine that produces quality sanitary napkins at a low cost.

The machine prepares sanitary napkins with standard material while cutting down the cost in production. It requires 3 to 4 persons to produce 2 pads per minute. Costing less than half of conventional options, this machine produces sanitary pads @ Rs.1/pad approximately.

The innovator has partnered with R. K. K. Trust for setting up a women based enterprise in Mewat district. The enterprise will be managed by rural women from the district who will be engaged in manufacturing and marketing the sanitary pads locally.



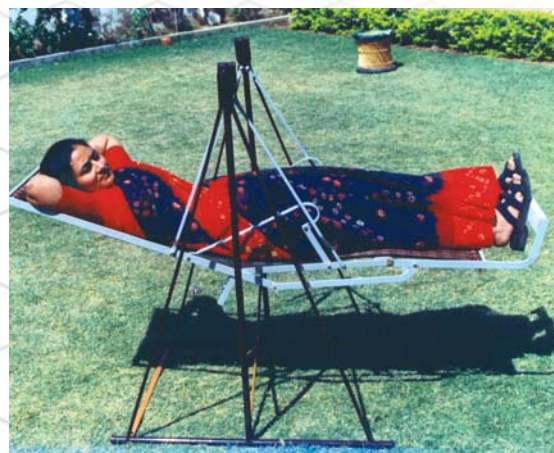
## Maruti Jhoola- the health care chair

Modern life with its fast pace and sedentary lifestyle has created the need for solutions incorporating relaxation and invigoration. Maruti Jhoola is a unique health chair with multiple capabilities, functions and settings for various postures and seating dynamics.

It is ergonomically designed and serves the purpose of seating as well as exercising, with a capacity to accommodate a person weighing 120 kgs. It can double up as a hammock or a jhoola. The health chair has established itself as useful for people suffering from arthritis and joint ailments.



**Sakrabhai Prajapati**  
Gujarat







**Raghav Gowda**  
Karnataka

## Manual Milking Machine

Fast and efficient milking of cows is a requirement across rural India and this product is an efficient step in that direction. The product is a low cost, manually operated device that helps farmers to milk the animal hygienically and also reduce drudgery in the process.

It is easy to use with simple controls and can be easily operated by women as well. The creation of suction and low vacuum makes it suitable for other applications.





## Aloe Vera Gel Extractor

The innovator has developed an effective multipurpose unit capable of pulverizing, steaming, and extraction of oil for herbal applications.

With this device, the innovator uses the specially designed pressure cooking chamber to extract the essence from Aloe Vera. Being a compact portable unit, it can be quickly and easily transported and used anywhere, to process herbs and deliver on demand. The present machine has a capacity to process 100 kg of Aloe Vera per hour.



**Dharamveer**  
Haryana





**Amrutbhai Agrawat**  
Gujarat

## Aaruni-the tilting bullock cart

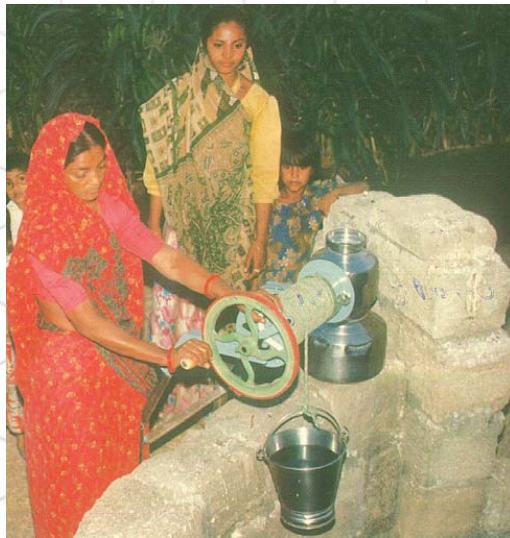
In a traditional bullock cart, with two wheels, part of the load is borne by the draft animals on their shoulders and neck. Moreover, the harnessing system makes it difficult to negotiate sharp bends or turns in the road. This causes galls on the neck of the bullocks, which affects not only the efficiency of the animals but also their stamina. This cart is thus designed to overcome the shortcomings of the traditional carts by having an extra wheel to balance the load. In addition, the cart has a tilting mechanism that is based on the rope and pulley system, which can be controlled by a lever located alongside the cart driver.



## Pulley with stopper

Millions of villagers in India face the problem of the hoisting rope sliding away inside the well when left free, with chafing of hands and crashing of bucket. This simple, low cost innovation is a pulley stopper that solves the problem.

A ratchet is attached to a pulley for preventing the movement of rope towards the well thereby reducing slippage, accidents and injuries to women and children. The innovation is available in three models - Ganga, Narmada and Saraswati.







**Dulal Choudhary**  
Assam

## Beauty Care Umbrella

Protection from harsh rays of the sun is a requirement in most parts of a tropical country like India. An umbrella made from traditional yet multifaceted material is a boon for the common man.

This innovative product is a durable, stain free, water proof umbrella produced from muga silk. It has a pleasing golden shine, which illuminates colour and protects from UV radiations up to 80 percent as per laboratory tests, better than that offered by conventional umbrellas.





## Mobile operated switch

Imagine a village where the farmer has the luxury of being able to stay at home and switch his pump in the faraway field on or off as required during the day or at night. This is made possible by this brilliant and revolutionary innovation which uses the power of mobile telephony to trigger electrical control switches.

The farmer can remotely know the status of the pump in his cell phone and turn the motor on or off by calling the particular configured number. It activates the switching by certain number of rings and hence incurs no call charges.



**Prem Singh Saini**  
Haryana





**Madhav Sawant**  
Maharashtra

## “Jalpari”- The water carrier

Every village in India has women who walk miles with heavy water pitcher on their head which results in considerable discomfort and long drawn injuries. This innovation is an alternative and consists of a shoulder slung unit fixed with water canisters balanced on either side.

The carrier has two washable plastic containers of 20 liters capacity each in the front and the back. Metallic handle grips for holding and picking, a soft flexible shoulder strap and a tap for taking out water are some of the features of this versatile unit.



## Herbal Growth Promoter

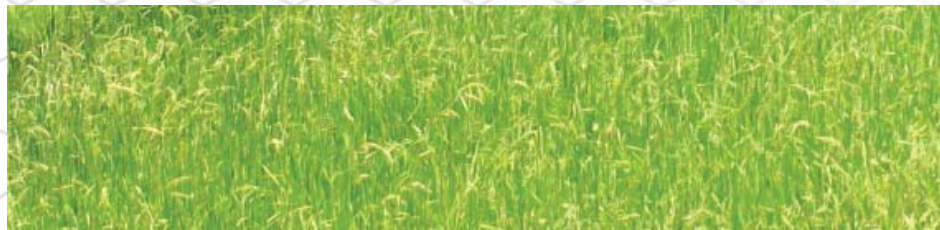
A herbal plant growth promoter, which is effective in protecting the plants from a broad spectrum of pests apart from providing necessary nutrition has been developed. It is named as “*Kamaal*” meaning wonderful, due to its performance. It is effective in field crops as well as in vegetable crops.

The main ingredients of the product are “*aak*” (*Calotropis gigantea*), “*reetha*” (*Sapindus trifoliatus*), “*dhatura*” (*Datura metel*), “*neem*” (*Azadirachta indica*), Tobacco (*Nicotiana tabacum*), and “*bhang*” (*Cannabis sativa*), etc.

The innovator has been supported under the Micro Venture Innovation Fund of NIF for commercialising “*Kamaal*”. The product is a good hit in the local market and is fetching steady income for the innovator. This product has also been supplied to the garden in Rashtrapati Bhavan.



Ishwar Singh Kundu  
Haryana





**Khimjibhai Kanadia**  
Gujarat

## Panihari - A head load reducing device

Rural women walk many tens of miles with heavy load on their head which causes stress, discomfort and eventually head and neck injuries.

The product is an ergonomically designed device fixed on top of the head, with two extended supporting rods from the sides of the device. The device transfers the weight carried on the head to the shoulders, which is better positioned to carry weight.





## Fruit Harvesting Device

Farmers all over India need a simple device that can reach tall branches of trees to cut and harvest thousands of fruits per day. This innovative device with unique profile and cutting action can be used to harvest fruits quickly, saving time and increasing output.

The novelty lies in the design of replaceable cutting blades and the hooking angle given to the oval shaped ring that assists in harvesting the fruits on upright branches. It is light weight, durable and is suitable for harvesting fruits like mango, guava, orange, etc.



**Madhav Mahajan**  
Maharashtra

## End notes & References

\* Scouted by Social Upliftment Trust, Hazaribag, Jharkhand

\*\* Direct entry

\*\*\* Scouted by Ambedkar Sansthan, Siwan, Bihar

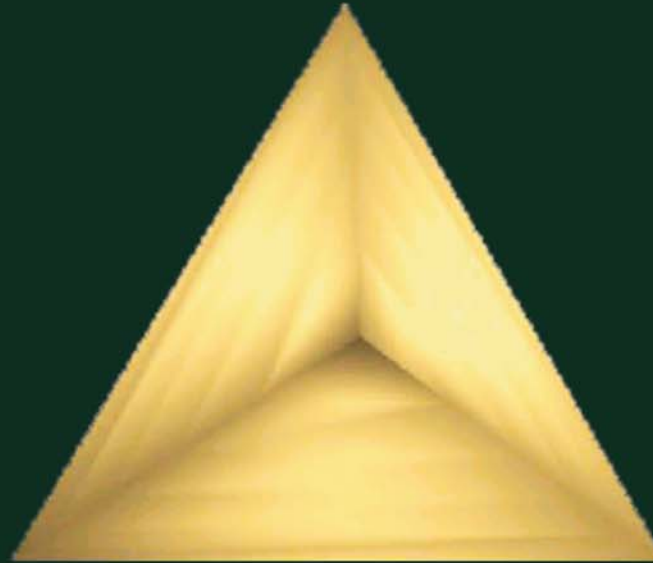
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Innovation



Investment

Enterprise



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