



Award: Consolation

Title: Two-wheeler based mobile spray painting device

Name: Sheikh Jahangir Sheikh Usman

Catagory: Mechanical/Electronics

Background

Sheikh Jahangir (48) has made a painting device that can be easily mounted on a two-wheeler scooter and carried to a customer's place. Deriving power from the two-wheeler's engine to run the compressor, this device lends flexibility of usage to the painter. Jahangir has been running a small spray painting shop, 'Khandesh Spray Painters' in Jalgaon for the past eighteen years. He has ten dependents in his family, his eight children, wife and his mother. He was born at Vijaynagar in Chennai district of Tamil Nadu. His father was a painter by profession. Jahangir has six sisters and two brothers. At the age of six, he was sent to his aunt's house at Malkapur (Dist. Buldhana, Maharashtra). There he started his school education. But poor economic condition of his aunt forced him to go to the forests to graze animals and earn something to supplement the family income. Because of this, he could not study beyond second standard. When he was eleven years old, his family shifted to Jalagaon. There he started to work as an ice candy man during summers. During off-season, he used to assist his father in painting work. He started working as a full time painter only after he was fifteen years old and since then has only perfected the art.

Genesis

By the time he reached twenty years of age, he started getting a lot of work for painting vehicles. To complete the customer's work, he started hiring electricity based air compressor from other vendors. But this solution hardly saved any money for him. He thought of buying compressor but the constraint was money and he was not having electricity connection at his shop. Thus, continuous fiddling for finding alternative source let him to develop the 'mobile spray painting device'. His first prototype was developed using a moped engine. It worked well but imparted a lot of vibrations while working. Also, being stationary its immobility became a constraint for him to meet customers' demand. Next, he mounted spraying kit on a moped and took drive from its engine to run the compressor thus making the unit completely mobile. For the next ten years he used the same moped based mobile spray painting device to earn his living. Finally, in 1993, he was able to buy a scooter and put his spraying kit assembly on it after a few modifications.



Innovation

The spraying unit consists of a one hp air compressor head and a cylindrical air tank to store the pressurized air. The scooter engine power is taken to the compressor head through a belt drive. In

the present system, the crankshaft of scooter engine is extended and a pulley is mounted on it, deriving the power from it to run the compressor. The compressor head pressurizes air, which is transferred to the air tank through the connecting exhaust port. The pressurized air from air tank is supplied to spray-painting unit through its delivery point. Apart from this, the rotary motion of engine is used to pump water, to generate electricity, for grinding tools, for drilling, for running fan and for washing vehicles. The unit is portable and can be transported to any location at the doorstep of customer. About a liter of petrol is consumed for painting a 407 Tata truck/Ambassador, taking almost an hour's time to complete the task. This is at half the charge for normal painting. The cost of the unit including cost of old scooter is only Rs. 12,000/-. Sheikh Jahangir is proud of his innovation. An ardent believer in hard work, he is always willing to help others in any way possible.